SDP Solution API Reference (MobileMoney, ECW)

## Change History

Changes between document issues are cumulative. The latest document issue contains all the changes made in earlier issues.

### Issue 08 (2014-09-30)
This issue is used for eighth office app.
Add one error code **1000** in the RequestPayment for Phase3.3.
Add the description of destPartnerId.
Add the chapter of MO Message Header for A2A Scenario.
Change the **Level of Requirement** of the **SenderID** to **Optional**.
Delete the **CurrCode** field.

### Issue 07 (2014-05-04)
This issue is the seventh official release, and includes the following changes:
Update the type of the **serviceId** field in the RequestPayment, DepositMobileMoney, ConfirmThirdpartyPayment, and QueryThirdPaytyAccount requests.
Change the description of **serviceId** and **bundleID**.

### Issue 06 (2014-04-23)
This issue is the sixth official release, and includes the following changes:
Update the description and the example of serviceId field in the RequestPayment, DepositMobileMoney, ConfirmThirdpartyPayment, and QueryThirdPaytyAccount request.

### Issue 05 (2014-04-09)
This issue is the fifth official release, and includes the following changes:
Update the description of StatusDesc field.

### Issue 04 (2014-03-27)
This issue is the fourth official release, and includes the following changes:
Modify the "fee deduction" to "bill payment".
Modify the description of Narration field in DepositMoney interface.
Add a note in the description of Cookie field.

### Issue 03 (2014-03-19)
This issue is the third official release, and includes the following changes for Phase3.1:
Add the MerchantName field in the ConfirmThirdPartyPayment request.

### Issue 02 (2014-03-10)
This issue is the second official release, and includes the following changes for Phase2.3:
Update the process flow for Paymentcompleted API.

### Issue 01 (2013-12-27)
This issue is the first official release.

# Contents

## Contents

# 01

## SOAP APIs

## 1.1 Overviews

### 1.1.1 API Functions

The SDP provides Mobile Money capability application programming interfaces (APIs) for third-party applications (App for short) to connect to it and use its Mobile Money capability for. Bill Payment, Depositing Money in Subscribers account & Querying Subscriber's account in a third party system. The App is generally developed by various partners of the SDP.

📖 **NOTE**

Partners are the enterprises and individuals who sign a contract and cooperate with carriers in utilizing the SDP. Partners include service Partners, Developers, and API Partners. In this document, partners are mainly the service Partners, Developers, and API Partners who use APIs for secondary development.

Table 1-1 describes functions of Mobile Money capability APIs provided by the SDP.

Table 1-1 Functions of Mobile Money capability APIs

| Function | Description | API |
|----------|-------------|-----|
| Bill Payment API | Bill payment initiated by Partner: The App initiates the requestPayment API to debit mobile money from subscribers mobile money account. Ex : Utility Payments , Recurrent Payments etc. | 1.2.2 RequestPayment |
| | Bill payment initiated by Subscriber: The subscriber initiates the ConfirmThirdPartyPayment API to pay their Bill on third party system. Ex : School Payment, Bill Payment etc | 1.3.2 ConfirmThirdParty Payment |
| Deposit | The App initiates the depositMobileMoney API to deposit mobile money in Subscriber s mobile money account. Ex : Cash Deposit | 1.4.2 DepositMobileMon ey |
| QueryingSubscriberaccou nt balance | The SDP initiates the QueryThirdPartyAccount API to query subscriber account balance on third party system. Ex: check Outstandlng Amount etc | 1.5.2 QueryThirdPartyA ccount |

## 1.1.2 Level of Requirement for Parameters

The App must develop APIs based on the level of requirement for each parameter.

Table 1-2 Level of requirement for parameters

| Type | Description |
|---|---|
| Mandatory | A parameter is always mandatory in a request. |
| | Parameters with the **Mandatory** requirement are used for access authentication or service processing. If a parameter with the **Mandatory** requirement is left empty in a request, access authentication or service processing fails and the request fails. |
| Conditional | A parameter is mandatory or optional in specified conditions. |
| | Parameters with the **Conditional** requirement are used for access authentication or service processing in specified conditions. If the specified conditions is met but a parameter with the **Conditional** requirement is left empty in a request, access authentication or service processing fails and the request fails. |
| Optional | A parameter is always optional. |
| | Parameters with the **Optional** requirement are not used for service processing. |

## 1.1.3 Request Format

The SDP provides the SOAP request in the following format:

```
<soapenv:Envelope>
    <soapenv:Header>
            <parameter>…</parameter>
    …
    </soapenv:Header>
    <soapenv:Body>
            <parameter>…</parameter>
    …
    </soapenv:Body>
</soapenv:Envelope>
```

Table 1-3 Request format

| Element | Description |
|---|---|
| \<soapenv:Envelope\> | Root element in a request, which specifies the namespace. |
| \<soapenv:Header\> | Request header.<br>Parameters in this element are defined by the SDP and are mainly information to be processed by the SDP services, including access authentication parameters. |
| \<soapenv:Body\> | Request body.<br>Parameters in this element comply with the SOAP protocol. |

## 1.1.4 Response Format

### Success Response Format

The SDP provides the SOAP API success responses in the following format:

```
<soapenv:Envelope>
    <soapenv:Body>
        <parameter>…</parameter>
…
    </soapenv:Body>
</soapenv:Envelope>
```

Table 1-4 Success response format

| Element | Description |
|---|---|
| \<soapenv:Envelope\> | Root element in a success response, which specifies the namespace. |
| \<soapenv:Body\> | Success response body.<br>Parameters in this element comply with the SOAP protocol. |

### Error Response Format

The SDP provides the SOAP API error responses in the following format:

```
<soapenv:Envelope>
    <soapenv:Body>
        <soapenv:Fault>
            <parameter>…</parameter>
…

            <detail>
                <parameter>…</parameter>
```

```
...
            </detail>
        </soapenv:Fault>
    </soapenv:Body>
</soapenv:Envelope>
```

Table 1-5 Error response format

| Element | Description |
|---|---|
| <soapenv:Envelope> | Root element in an error response, which specifies the namespace. |
| <soapenv:Body> | Error response body, contains the <soapenv:Fault> and <detail> elements. This element specifies the error code and error details. |
| <soapenv:Fault> | Error code and description. For details about error responses, see 1.6 API Error Responses. |
| <detail> | Error details, which are the same as the <soapenv:Fault> element information. |

### 1.1.5 Namespaces

When coding API functions, partners must follow the namespaces of Mobile Money capability APIs and data types in the APIs.

- Table 1-6 describes namespaces of Mobile Money capability APIs.

- The namespace of data types in Mobile Money capability APIs is **http://www.w3.org/2001/XMLSchema**.

📖 NOTE

The Mobile Money capability APIs involve the following data types: Parameter[0..20], and Return[0..20]. For details about the structure of the data types, see the parameter description for the matching API requests or responses.

Table 1-6 Namespaces of Mobile Money capability APIs

| Namespace | API |
|---|---|
| http://schemas.xmlsoap.org/soap/encoding/ http://schemas.xmlsoap.org/wsdl/ http://schemas.xmlsoap.org/wsdl/soap/ http://b2b.mobilemoney.mtn.zm_v1.0/ | • 1.2.2 RequestPayment • 1.3.2 ConfirmThirdPartyPayment • 1.4.2 DepositMobileMoney • 1.5.2 QueryThirdPartyAccount |

## 1.2 Bill Payment API initiated by Partner

### 1.2.1 Process

Figure 1-1 shows the process of bill payment for ECW.

**Figure 1-1** Process of bill payment for ECW
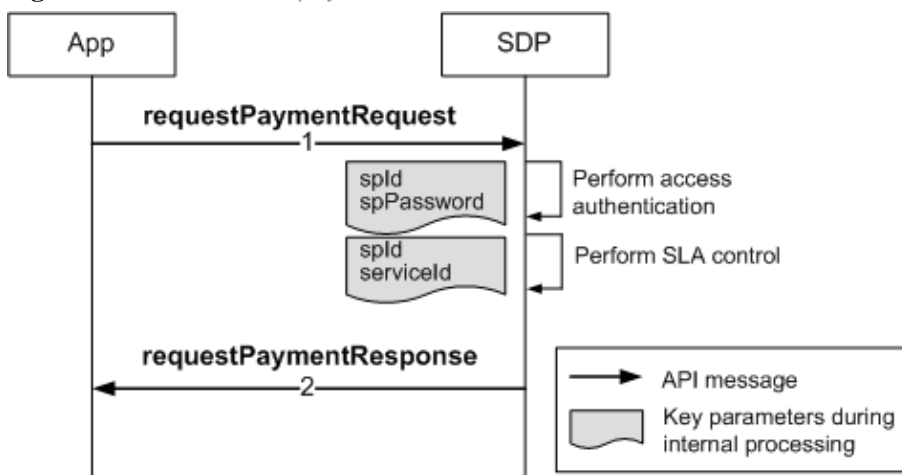


Table 1-7 describes the process for ECW.

Table 1-7 Description for the process of bill payment for ECW

| Step | Description |
|------|-------------|
| 1 | The App sends bill payment request to debit mobile money from subscribers account to SDP. |
| 2 | • The SDP performs authentication and service level agreement (SLA) control based on fields in the request.<br>• The SDP sends response to the App. |

### 1.2.2 RequestPayment

*Function*

The App (functioning as the client) invokes the requestPayment API to debit mobile money from subscribers account.

Partners must code the App based on the API field requirements so that the App can send correct requests to the SDP. The SDP must send a response within 180 seconds by default.

## *Request URI*

The request URI is the destination URI of requestPayment messages sent by the App to the SDP. The URI is provided by the SDP in the following format:
**http://*IP*:*Port*/ThirdPartyServiceUMMImpl/UMMServiceService/RequestPayment/v17**
In the format, **IP** and **Port** indicate the service IP address and SOAP port number of the API provided by the SDP. Contact carriers to obtain the IP address and port number.

## *1.2.3 Request for RequestPayment*

The App functions as the client and sends a requestPaymentRequest message to the SDP for bill payment.

## *Example*

```
POST /ThirdPartyServiceUMMImpl/UMMServiceService/RequestPayment/v17 HTTP/1.1
Content-Type:text/xml
Content-Length:1069
Host:127.0.0.1
Signature:43AD232FD45FF
Cookie: sessionid=default8fcee064690b45faa9f8f6c7e21c5e5a


<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
 xmlns:b2b="http://b2b.mobilemoney.mtn.zm_v1.0">
  <soapenv:Header>
    <RequestSOAPHeader xmlns="http://www.huawei.com.cn/schema/common/v2_1">
      <spId>35000001</spId>
      <spPassword>de96d901b3bad1db2aab76b7b0b202f2</spPassword>
        <bundleID>256000039</bundleID>
      <serviceId>35000001000035</serviceId>
      <timeStamp>20100727</timeStamp>
</RequestSOAPHeader>
  </soapenv:Header>
  <soapenv:Body>
    <b2b:processRequest>
      <serviceId>200</serviceId>
      <parameter>
        <name>DueAmount</name>
        <value>10</value>
      </parameter>
      <parameter>
        <name>MSISDNNum</name>
        <value> FRI:< MSISDNNum >/MSISDN </value>
      </parameter>
      <parameter>
        <name>ProcessingNumber</name>
        <value>555</value>
```

```
        </parameter>
        <parameter>
          <name>serviceId</name>
          <value>101</value>
        </parameter>
        <parameter>
          <name>AcctRef</name>
          <value> FRI:< AcctRef > @water.company/SP </value>
        </parameter>
        <parameter>
          <name>AcctBalance</name>
          <value>555</value>
        </parameter>
        <parameter>
          <name>MinDueAmount</name>
          <value>121212</value>
        </parameter>
        <parameter>
          <name>Narration</name>
          <value>121212</value>
        </parameter>
        <parameter>
          <name>PrefLang</name>
          <value>121212121</value>
        </parameter>
        <parameter>
          <name>OpCoID</name>
          <value>0</value>
        </parameter>
    </b2b:processRequest>
      </soapenv:Body>
  </soapenv:Envelope>
```

*Message HTTP Header Parameters*

Table 1-8 Describes parameters in a requestPaymentRequest message HTTP header.

Table 1-8 Parameters in a requestPaymentRequest message HTTP header

| Header Field | Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|---|
| Cookie | sessionid | String | | Conditional | The session id is used as a cookie in the HTTP header in the requests towards the Mobile Money Manager when the Partner use **Login/Logout** mode. [Example] default8fcee064690b45faa9f8f6c7e21c5e5a **NOTE** Cookie is valid only for ECW and not for fundamo. |
| Signature/ | | String | | Conditional | Signature. The field indicates the summary when the Partner uses HMAC security mode. [Example] 43AD232FD45FF |

## Message SOAP Header Parameters

Table 1-9 describes parameters in a requestPaymentRequest message SOAP header.

Table 1-9 Parameters in a requestPaymentRequest message SOAP header

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| spId | xsd: string | 21 | Mandatory | Partner ID. The ID is automatically allocated by the SDP to partners after successful registration. To obtain the ID: <ul><li>A service Partner and API Partner can log in to the SDP management portal and query account information.</li><li>A Developer can log in to the Developer Portal and query account information.</li></ul> [Example] 000201 |

## 1 SOAP APIs

| Parameter | Type | Length | Level of Requirement | Description |
|-----------|------|--------|---------------------|-------------|
| spPassword | xsd: string | 100 | Conditional | Authentication key for the SDP to authenticate partners.<br><br>The value is a character string encrypted from **spId** + **Password** + **timeStamp** by MD5. The encryption formula is: spPassword = MD5(spId + Password + timeStamp). In the formula:<br><br>• **spId** and **timeStamp**: authentication ID and timestamp.<br><br>• **Password**: password for partners to access the SDP.<br><br>  – A service Partner and API Partner can obtain the password from the email notification received after successful registration.<br><br>  – A Developer can log in to the Developer Portal, choose **Member Center** > **Account** > **Registration Information** > **Invoke Password**, and set the password.<br><br>The SDP supports authentication by **SP ID + Password**, **SP ID + IP address + Password**, or **SP ID + IP address**. Partners select an authentication mode during registration. If a partner selects authentication by **SP ID + Password** or **SP ID + IP address + Password**, this parameter is mandatory in requests sent by this partner.<br><br>[Example]<br><br>e6434ef249df55c7a21a0b45758a39bb |
| bundleID | xsd: string | 21 | Conditional | Bundle ID.<br><br>When SDP creates a capability bundle, SDP allocates a bundleID to capability bundle.<br><br>The **bundleID** must not be contained during invocation of a service interface developed by service partners and other partners, and must be contained during invocation of a capability interface developed by API partners, other partners, and developers.<br><br>[Example]<br><br>256000039 |

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| serviceId | xsd: string | 21 | Conditional | Service ID.<br>The ID is automatically allocated by the SDP to services after successful release. A service Partner can log in to the SDP management portal and query service information for the ID.<br>The **serviceId** must be contained during invocation of a service interface developed by service partners and other partners, and must not be contained during invocation of a capability interface developed by API partners, other partners, and developers.<br>[Example]<br>35000001000001 |
| timestamp | xsd: string | 14 | Conditional | Timestamp (UTC time).<br>The value is used in MD5 encryption of **spPassword**.<br>This parameter is mandatory when the **spPassword** parameter is required.<br>[Format]<br>*yyyyMMddHHmmss*<br>[Example]<br>20100731064245 |

## *Message Body Parameters*

Table 1-10 describes parameters in a requestPaymentRequest message body.

Table 1-10 Parameters in a requestPaymentRequest message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| serviceId | xsd: string | 4 | Mandatory | Holds the identification number to identify the service request.<br>This is set as 200. |

## 1 SOAP APIs

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| parameter | Parameter[0..20] | - | Optional | Holds the request parameter details in the form of name/value pair to identify the service details. Valid parameter names are: <br>• DueAmount<br>• CurrCode<br>• MSISDNNum<br>• ProcessingNumber<br>• serviceId<br>• AcctRef<br>• AcctBalance<br>• MinDueAmount<br>• Narration<br>• PrefLang<br>• OpCoID<br>For the detailed parameter name information, see Table 1-12.<br>The **parameter** parameter is of the Parameter[0..20] type and contains multiple sub-parameters. For details about the Parameter[0..20] type, see Table 1-11. |

Table 1-11 describes the parameter structure of the Parameter[0..20] type.

Table 1-11 Parameter structure of the Parameter[0..20] type

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| name | xsd:string | - | Mandatory | Holds the parameter name. |
| value | xsd:string | - | Mandatory | Holds the parameter value. |

Table 1-12 describes the parameter name lists.

Table 1-12 Parameter name lists

| name | value | | | |
|---|---|---|---|---|
| **Parameter** | **Type** | **Length** | **Level of Requirement** | **Description** |
| DueAmount | decimal | 4 | Mandatory | The amount that the subscriber is due to pay on the App system. |
| MSISDNNum | xsd:string | 30 | Mandatory | An Id to uniquely identify the subscriber on the App system. Subscriber's MSISDN number or Fake ID. [Format] • Mobile number: [Country code][Mobile number] • Fake ID: [Prefix]- [opcoid]-[sequence].  [Example] • Mobile number: 8612312345678 • Fake ID: f-245-11900000007639 Partner needs to convert MSISDN to FRI format before sending it as per below rules: FRI:< *MSISDNNum* >/MSISDN |
| ProcessingNumber | xsd:string | 140 | Mandatory | An Id to uniquely identify the transaction on the App system. |
| serviceId | xsd:string | 140 | Optional | This relates to the **Code** configured in the Mobile Money system. Properties file is used to uniquely identify each service provided. |
| AcctRef | xsd:string | 140 | Mandatory | Subscriber's account number on the App system. If the subscriber does not have account on the App system, you need confirm it with the Mobile Money system. The Partner should send the request in format like: FRI:< AcctRef > @water.company/SP |
| AcctBalance | xsd:int | 4 | Optional | Subscriber's balance on the App system. If there is no subscriber's balance on the App system, you need confirm it with the Mobile Money system. |
| MinDueAmount | xsd:int | 4 | Optional | The minimum amount that the subscriber is due to pay on the App system. If there is no minimum due on App system, you need confirm it with the Mobile Money system. |

| name | value | | | |
|---|---|---|---|---|
| **Parameter** | **Type** | **Length** | **Level of Requirement** | **Description** |
| Narration | xsd:string | 140 | Optional | Any text that the vendor would like to display to the subscriber. |
| PrefLang | xsd:string | 140 | Optional | The language locale to be used. |
| OpCoID | xsd:string | 140 | Optional | Identifier of the country local to be used. Please refer to 3.3 OpCoID List. |

## *1.2.4 Response for RequestPayment*

The SDP functions as the server, processes requestPaymentRequest messages received from the App, and sends requestPaymentResponse messages to the App.

This topic provides a success response example. If a request fails, the SDP sends an error response that contains an error code. For details about error responses, see 1.6 API Error Responses.

## *Example*

```
HTTP/1.1 200 OK
Signature:43AD232FD45FF
Content-Length: 0
Server: Jetty(7.5.4.v20111024)

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <ns1:processRequestResponse xmlns:ns1="http://b2b.mobilemoney.mtn.zm_v1.0">
      <return>
        <name>ProcessingNumber</name>
        <value>555</value>
      </return>
      <return>
        <name>ThirdPartyAcctRef</name>
        <value>444</value>
      </return>
      <return>
        <name>senderID</name>
        <value>MOM</value>
      </return>
      <return>
        <name>StatusCode</name>
        <value>222</value>
      </return>
      <return>
```

```
        <name>StatusDesc</name>
        <value>PENDING</value>
      </return>
      <return>
        <name>MOMTransactionID</name>
        <value>111</value>
      </return>
    </ns1:processRequestResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

## *Message HTTP Header Parameters*

Table 1-13 Describes parameters in a requestPaymentResponse message HTTP header.

Table 1-13 Parameters in a requestPaymentResponse message HTTP header

| Header Field | Paramet er | Type | Length | Level of Require ment | Description |
|---|---|---|---|---|---|
| Signature | / | String | | Condition al | Signature. The field indicates the summary when the Partner uses HMAC security mode. [Example] 43AD232FD45FF |

## *Message Body Parameters*

Table 1-14 describes parameters in a requestPaymentResponse message body.

**1 SOAP APIs**

Table 1-14 Parameters in a requestPaymentResponse message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| return | Return[0..20] | - | Mandatory | Holds the response parameter details in the form of name/value pair to identify the service details. Valid parameter names are: <ul><li>ProcessingNumber</li><li>ThirdPartyAcctRef</li><li>SenderID</li><li>StatusCode</li><li>StatusDesc</li><li>MOMTransactionID</li></ul> For the detailed parameter name information, see Table 1-16. The **return** parameter is of the Return[0..20] type and contains multiple sub-parameters. For details about the Return[0..20] type, see Table 1-15. |

Table 1-15 describes the parameter structure of the Return[0..20] type.

Table 1-15 Parameter structure of the Return[0..20] type

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| name | xsd:string | - | Mandatory | Holds the parameter name. |
| value | xsd:string | - | Mandatory | Holds the parameter value. |

Table 1-16 describes the return name lists.

Table 1-16 Return name lists

| name | value | | | |
|---|---|---|---|---|
| **Parameter** | **Type** | **Length** | **Level of Requirement** | **Description** |
| ProcessingNumber | xsd:string | 140 | Mandatory | An Id to uniquely identify the transaction on the App system. |
| ThirdPartyAcctRef | xsd:string | 140 | Optional | Subscriber's account number on the App system. The SDP will fill this parameter as the same value which was received from **AcctRef** in the request. |

**1 SOAP APIs**

| name | value | | | |
|------|-------|--|--|--|
| **Parameter** | **Type** | **Length** | **Level of Requirement** | **Description** |
| SenderID | xsd:string | 140 | Optional | An Id to identify sender. This is set as MOM. |
| StatusCode | xsd:int | 2 | Mandatory | A predetermined code to determine the status of the transaction. |
| StatusDesc | xsd:string | 140 | Optional | The Mobile Money system supplied description of the response code. The value are as follow: • SUCCESSFUL • PENDING • FAILED |
| MOMTransactionID | xsd:string | 140 | Optional | An Id to uniquely identify the transaction on the Mobile Money system. The SDP will forward this parameter to the App system. |

### 1.2.5 Error Codes for RequestPayment

Table 1-17 describes requestPayment error codes that the SDP may return upon an exception. For details about the error codes, see the *SDP Solution Error Code Reference*.

Table 1-17 requestPayment error codes

| Error Code | Description |
|------------|-------------|
| 01 | Successfully processed transaction. |
| 02 | Invalid account details. |
| 03 | Transaction not allowed. |
| 04 | Payment below minimum. |
| 05 | Invalid Fundamo userid/password. |
| 06 | Payment Entry not found. |
| 07 | Missing transaction/message ID. |
| 08 | Missing application version. |
| 100 | General failure. |

## 1 SOAP APIs

| Error Code | Description |
|---|---|
| | Get addr route info failed!the baseScfType = %1,the sourceAddr = %2,the destAddr = %3.<br>**NOTE**<br>ScfType refers to Service Capability Function Type. |
| | MDSP AuthPrice failed, result code is %1.<br>**NOTE**<br>The MDSP is composed of the Mobile Data Control Center (MDCC) subsystem and peripheral functional subsystems such as the Portal and Mobile Data Management Center (MDMC). The MDCC subsystem consists of core modules such as the Short Message Push Agent (SMPA), Network Management System (NMS) proxy, and BOSS interface machine. The MDSP is connected to the NMS, BOSS system, Service Control Point (SCP), customer service center, and service gateways. The MDSP can implement the functions such as external entity access, mobile data management, user and service authentication, and charging. |
| | Waiting for response timed out, message type is %1. |
| | Cannot find route policy, the policy identifier is %1. |
| | The service status is unknown. |
| | Service %1 is in blacklist! |
| | The API %1 is not existed. |
| | Service ID %1 is not exist! |
| | The service status is suspended. |
| | The service status is pre-deregistered. |
| | The service status is deregistered. |
| | The API status is disabled. |
| | SP status is locked. |
| | The sp's Status is forbidden. |
| | The sp's status is pause. |
| | The RemotePassword of NE %1 is empty!<br>**NOTE**<br>NE refers to network element, such as SMSC, MMSC. |

**1 SOAP APIs**

| Error Code | Description |
|---|---|
| | NEInfo id %1 not in SAG.<br>**NOTE**<br>The SAG provides open interfaces for third-party partners. It authenticates and authorizes the partners, and controls the Service Level Agreement policies when it receives third-party service requests. |
| | The ScfType %1 is inactive!<br>**NOTE**<br>ScfType refers to Service Capability Function Type. |
| | The ScfType %1 is uninstalled!<br>**NOTE**<br>ScfType refers to Service Capability Function Type. |
| | The service status is configuring. |
| | The Created is null. |
| | SP ip is null! |
| | Sp password is null! |
| | The Nonce is null. |
| | Authentication Failed, cause by SP, because of timestamp expired. |
| | Service ID is null! |
| | Sp password is null! |
| | Timestamp is empty in soapheader. |
| | Service ID %1 is invalid! |
| | The PasswordDigest is not accepted. |
| | The sp's Status is pre-deregistered. |
| | The sp's Status is deregistered. |
| | The sp's Status is unknown. |
| | SP %1 is in blacklist! |
| | SPID %1 is not exist! |
| | Sp password is not accepted! |
| | Sp ip %1 is not accepted! |
| | local SP password is null! |

## 1 SOAP APIs

| Error Code | Description |
| --- | --- |
| | The authentication type is unknown! |
| | Authentication Failed, cause by SP, because of timestamp is not valid. |
| | Minimum Amount per Transaction |
| | %1 is null. |
| 101 | Field length exceeded. |
| 102 | Subscriber could not be identified. (Invalid subscriberID). |
| | %1 is null. |
| 103 | Duplicate transaction id. |
| 104 | Authorisation declined. |
| 105 | Non-existent Mobile Acc. |
| 106 | Deposit Transfer not processed: Own Mobile Account Number entered. |
| 107 | Deposit Transfer not processed: Invalid amount format. |
| 108 | Deposit Transfer not processed: Insufficient funds |
| 109 | Deposit Transfer not processed: Daily limit has been exceeded. |
| 110 | Deposit Transfer not processed: Source account not active |
| 111 | Deposit Transfer not processed: Mobile Account Number is not active. |
| 501 | DATEFORMAT_INVALID |
| 502 | FRI_INVALID |
| 503 | IDENTITY_INVALID |
| 504 | INVALID_FIELD_VALUE |
| 505 | MANDATORY_FIELD_MISSING |
| 506 | OTHER_FINANCIAL_ERROR |
| 507 | PREAPPROVAL_NOT_FOUND |
| 508 | REFERENCE_ID_NOT_FOUND |
| 509 | REQUIRED_FIELD_MISSING |
| 510 | SERVICE_TEMPORARILY_UNAVAILABLE |

| Error Code | Description |
|---|---|
| 511 | SESSION_INVALID |
| 512 | TRANSACTION_ID_OR_ORIGINAL_TRANSACTION_ID_MISSING |
| 513 | TRANSACTION_NOT_COMPLETED |
| 514 | TRANSFER_TYPE_AND_ACCOUNT_DO_NOT_MATCH |
| 515 | ACCOUNTHOLDER_WITH_FRI_NOT_FOUND |
| 516 | ACCOUNTHOLDER_WITH_MSISDN_NOT_FOUND |
| 517 | AUTHORIZATION_INVALID_ACCOUNT_TYPE_COMBINATION |
| 518 | COULD_NOT_PERFORM_OPERATION |
| 519 | EXPIRED_OR_INVALID_TRANSACTION_ID |
| 520 | INCORRECT_PASSWORD |
| 521 | NOT_AUTHORIZED |
| 522 | AMOUNT_INVALID |
| 523 | CURRENCY_NOT_SUPPORTED |
| 524 | INVALID_CURRENCY |
| 525 | RESOURCE_NOT_ACTIVE |
| 526 | SOURCE_NOT_FOUND |
| 527 | RESOURCE_NOT_FOUND |
| 528 | Any Other Error Code |
| 1000 | Pending |

## 1.3 Bill Payment API initiated by Subscriber

### 1.3.1 Process

Figure 1-2 shows the process of bill payment confirmation for ECW.

**Figure 1-2** Process of bill payment confirmation for ECW
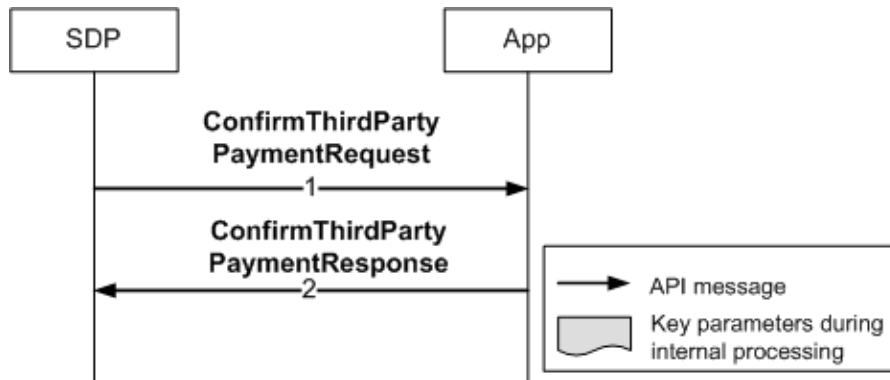


Table 1-18 describes the process for ECW.

Table 1-18 Description for the process of bill payment confirmation for ECW

| Step | Description |
|------|-------------|
| 1 | The SDP sends bill payment confirmation request to the App. |
| 2 | The App parses the bill payment confirmation request and sends a response to the SDP. |

### 1.3.2 ConfirmThirdPartyPayment

#### Function

The subscriber initiates the ConfirmThirdPartyPayment API to pay their Bill on third party system.
Partners must code the App based on the API field requirements so that the App can correctly parse and respond to requests received from the SDP. The App must send a response to the SDP within 30 seconds.

#### Request URI

The request URI is the destination URI of ConfirmThirdPartyPaymentRequest messages sent by the SDP to the App. The URI is defined by the App.

### 1.3.3 Request for ConfirmThirdPartyPayment

The SDP functions as the client and sends a ConfirmThirdPartyPaymentRequest message to the App to payment confirmation.

## *Example*

```
POST /ThirdPartyServiceUMMImpl/UMMServiceService/ConfirmThirdPartyPayment HTTP/1.1
Content-Type:text/xml
Content-Length:1069
Host:127.0.0.1
Signature:43AD232FD45FF

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Header>
    <ns1:NotifySOAPHeader xmlns:ns1="http://www.huawei.com.cn/schema/common/v2_1">
      <ns1:traceUniqueID>50402150582120728112918000602</ns1:traceUniqueID>
    </ns1:NotifySOAPHeader>
  </soapenv:Header>
  <soapenv:Body>
    <ns2:processRequest xmlns:ns2="http://b2b.mobilemoney.mtn.zm_v1.0/">
      <serviceId>101</serviceId>
      <parameter>
        <name>ProcessingNumber</name>
        <value>12121212</value>
      </parameter>
      <parameter>
        <name>senderID</name>
        <value>MOM</value>
      </parameter>
      <parameter>
        <name>AcctRef</name>
        <value>46733491234</value>
      </parameter>
      <parameter>
        <name>RequestAmount</name>
        <value>1212</value>
      </parameter>
      <parameter>
        <name>paymentRef</name>
        <value>12121</value>
      </parameter>
      <parameter>
        <name>ThirdPartyTransactionID</name>
        <value>12112</value>
      </parameter>
      <parameter>
        <name>MOMAcctNum</name>
        <value> FRI:46733491234/MSISDN </value>
      </parameter>
```

```xml
                <parameter>
                   <name>CustName</name>
                   <value>121212</value>
                </parameter>
                <parameter>
                   <name>TXNType</name>
                   <value>12121</value>
                </parameter>
                <parameter>
                   <name>StatusCode</name>
                   <value>12121</value>
                </parameter>
                <parameter>
                   <name>OpCoID</name>
                   <value>0</value>
                </parameter>
                <parameter>
                   <name>MerchantName</name>
                   <value>dstv1</value>
                </parameter>
            </ns2:processRequest>
         </soapenv:Body>
      </soapenv:Envelope>
```

## *Message HTTP Header Parameters*

Table 1-19 Describes parameters in a ConfirmThirdPartyPaymentRequest message HTTP header.

Table 1-19 Parameters in a ConfirmThirdPartyPaymentRequest message HTTP header

| Header Field | Paramet er | Type | Length | Level of Require ment | Description |
|---|---|---|---|---|---|
| Signature | / | String | | Condition al | Signature. The field indicates the summary when the Partner uses HMAC security mode. [Example] 43AD232FD45FF |

## *Message SOAP Header Parameters*

Table 1-20 describes parameters in a ConfirmThirdPartyPaymentRequest message header.

Table 1-20 Parameters in a ConfirmThirdPartyPaymentRequest message header

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| traceUniqueID | xsd:string | 30 | Mandatory | Transaction ID.<br>The ID is automatically generated by the SDP and is used only to trace messages during the SDP commissioning. The App ignores this parameter.<br>[Example]<br>100001200101110623021721000011 |

## Message Body Parameters

Table 1-21 describes parameters in a ConfirmThirdPartyPaymentRequest message body.

Table 1-21 Parameters in a ConfirmThirdPartyPaymentRequest message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| serviceId | xsd: string | 4 | Mandatory | Holds the identification number to identify the service request.<br>This is set as 101. |

## 1 SOAP APIs

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| parameter | Parameter[0..20] | - | Optional | Holds the request parameter details in the form of name/value pair to identify the service details.<br><br>Valid parameter names are:<br>• ProcessingNumber<br>• SenderID<br>• AcctRef<br>• RequestAmount<br>• CurrCode<br>• PaymentRef<br>• ThirdPartyTransactionID<br>• MOMAcctNum<br>• CustName<br>• TXNType<br>• StatusCode<br>• OpCoID<br>• MerchantName<br><br>For the detailed parameter name information, see Table 1-23.<br><br>**NOTE**<br>Fields **RequestAmount** and **PaymentRef** are mandatory only for serviceId 101.<br><br>The currency is the main currency of the country where the OpCo node is located. The minimum current unit is used. For the currencies and their units in the OpCo countries, see 3.1 The Currency and Atomic Charging Unit of each OpCo country.<br><br>The **parameter** parameter is of the Parameter[0..20] type and contains multiple sub-parameters. For details about the Parameter[0..20] type, see Table 1-22. |

Table 1-22 describes the parameter structure of the Parameter[0..20] type.

Table 1-22 Parameter structure of the Parameter[0..20] type

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| name | xsd:string | - | Mandatory | Holds the parameter name. |
| value | xsd:string | - | Mandatory | Holds the parameter value. |

**1 SOAP APIs**

Table 1-23 describes the parameter lists.

Table 1-23 Parameter name lists

| name | value | | | |
|------|-------|--|--|--|
| **Parameter** | **Type** | **Length** | **Level of Requirement** | **Description** |
| ProcessingNumber | xsd:long | 140 | Mandatory | An Id to uniquely identify the transaction on the App system. |
| SenderID | xsd:string | 140 | Optional | An Id to identify sender.<br>This is set as MOM. |
| AcctRef | xsd:string | 140 | Mandatory | Subscriber's account number on the App system. If the subscriber does not have account on the App system, you need confirm it with the Mobile Money system.<br>The values send to SP will be in format like:<br>• FRI:46733491234/MSISDN<br>• FRI:12345ABC@water.company/SP |
| RequestAmount | decimal | 4 | Mandatory | The value of the amount to be paid to the App system. |
| PaymentRef | xsd:string | 140 | Optional | A description the subscriber provides of the payment. The SDP will forward this parameter to the App system. |
| ThirdPartyTransactionID | xsd:string | 140 | Optional | An Id to uniquely identify the transaction on the App system. This parameter is left blank in this instance.<br>This is the ID sent by the App system in requestPayment request **ProcessingNumber** parameter. |
| MOMAcctNum | xsd:string | 140 | Optional | Subscriber's Mobile Money account number.<br>SDP will send the date to SP like :<br>FRI:46733491234/MSISDN<br>46733491234 is Subscriber MSISDN. |
| CustName | xsd:string | 140 | Mandatory | The name of the subscriber. |
| TXNType | xsd:string | 140 | Optional | A code value to identify the type of transaction being executed. |
| StatusCode | xsd:int | 4 | Mandatory | A predetermined code to determine the status of the transaction.<br>Value: 01 |

| name | | value | | |
|---|---|---|---|---|
| **Parameter** | **Type** | **Length** | **Level of Requirement** | **Description** |
| OpCoID | xsd:string | 140 | Optional | Identifier of the country local to be used. Please refer to 3.3 OpCoID List. |
| MerchantNam e | xsd:string | 30 | Optional | It indicates the name of the destination partner. |

### 1.3.4 Response for ConfirmThirdPartyPayment

The App functions as the server, processes ConfirmThirdPartyPaymentRequest messages received from the SDP, and sends ConfirmThirdPartyPaymentResponse messages to the SDP.

This topic provides a success response example. If a request fails, the SDP sends an error response that contains an error code. For details about error responses, see 1.6 API Error Responses.

*Example*

```
HTTP/1.1 200 OK
Signature:43AD232FD45FF
Content-Length: 0
Server: Jetty(7.5.4.v20111024)

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:b2b="http://b2b.mobilemoney.mtn.zm_v1.0/">
  <soapenv:Header/>
  <soapenv:Body>
    <b2b:processRequestResponse>
      <return>
        <name>ProcessingNumber</name>
        <value>121212</value>
      </return>
      <return>
        <name>StatusCode</name>
        <value>121212</value>
      </return>
    <return>
        <name>StatusDesc</name>
        <value>PENDING</value>
      </return>
      <return>
        <name>ThirdPartyAcctRef</name>
        <value>121212</value>
      </return>
      <return>
```

```
                <name>Token</name>
                <value>121212</value>
            </return>
        </b2b:processRequestResponse>
    </soapenv:Body>
</soapenv:Envelope>
```

## *Message HTTP Header Parameters*

Table 1-24 Describes parameters in a ConfirmThirdPartyPaymentResponse message HTTP header.

Table 1-24 Parameters in a ConfirmThirdPartyPaymentResponse message HTTP header

| Header Field | Paramet er | Type | Length | Level of Require ment | Description |
|---|---|---|---|---|---|
| Signature | / | String | | Condition al | Signature. The field indicates the summary when the Partner uses HMAC security mode. [Example] 43AD232FD45FF |

## *Message Body Parameters*

Table 1-25 describes parameters in a ConfirmThirdPartyPaymentResponse message body.

Table 1-25 Parameters in a ConfirmThirdPartyPaymentResponse message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| return | Return[0..20] | - | Mandatory | Holds the response parameter details in the form of name/value pair to identify the service details.<br><br>Valid parameter names are:<br>• ProcessingNumber<br>• StatusCode<br>• StatusDesc<br>• ThirdPartyAcctRef<br>• Token<br><br>For the detailed parameter name information, see Table 1-27.<br><br>The **return** parameter is of the Return[0..20] type and contains multiple sub-parameters. For details about the Return[0..20] type, see Table 1-26. |

Table 1-26 describes the parameter structure of the Return[0..20] type.

Table 1-26 Parameter structure of the Return[0..20] type

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| name | xsd:string | - | Mandatory | Holds the parameter name. |
| value | xsd:string | - | Mandatory | Holds the parameter value. |

Table 1-27 describes the return name lists.

Table 1-27 Return name lists

| name | | value | | | |
|---|---|---|---|---|---|
| Parameter | Type | Length | Level of Requirement | Description | |
| ProcessingNumber | xsd:string | 140 | Mandatory | An Id to uniquely identify the transaction on the Mobile Money system. | |
| StatusCode | xsd:int | 2 | Mandatory | A predetermined code to determine the status of the transaction. | |

| name | value | | | |
|---|---|---|---|---|
| **Parameter** | **Type** | **Length** | **Level of Requirement** | **Description** |
| StatusDesc | xsd:string | 140 | Optional | The Mobile Money system supplied description of the response code. The value are as follow: <br> • PENDING <br> • COMPLETED <br> • FAILED |
| ThirdPartyAcctRef | xsd:string | 140 | Optional | Subscriber's account number on the App system. The SDP will fill this parameter as the same value which was received from **AcctRef** in the request. |
| Token | xsd:string | 140 | Optional | A 32 character token representing the prepaid airtime or electricity bought. |

### 1.3.5 Error Codes for ConfirmThirdPartyPayment

The App returns error codes to the SDP when an exception occurs in response to ConfirmThirdPartyPaymentRequest messages. The error codes are defined by partners.
The following table describes ConfirmThirdPartyPayment error codes that the partners may return upon an exception.

Table 1-28 ConfirmThirdPartyPayment error codes

| Error Code | Description |
|---|---|
| 01 | Successfully processed transaction. |
| 02 | Invalid account details. |
| 03 | Transaction not allowed. |
| 04 | Payment below minimum. |
| 05 | Invalid Fundamo userid/password. |
| 06 | Payment Entry not found. |
| 07 | Missing transaction/message ID. |
| 08 | Missing application version. |
| 100 | General failure. |
| 101 | Field length exceeded. |

## 1 SOAP APIs

| Error Code | Description |
|---|---|
| 102 | Subscriber could not be identified. (Invalid subscriberID). |
| 103 | Duplicate transaction id. |

## 1.4 Deposit APIs

### 1.4.1 Process

Figure 1-3 shows the process of deposit for ECW.

**Figure 1-3** Process of deposit for ECW
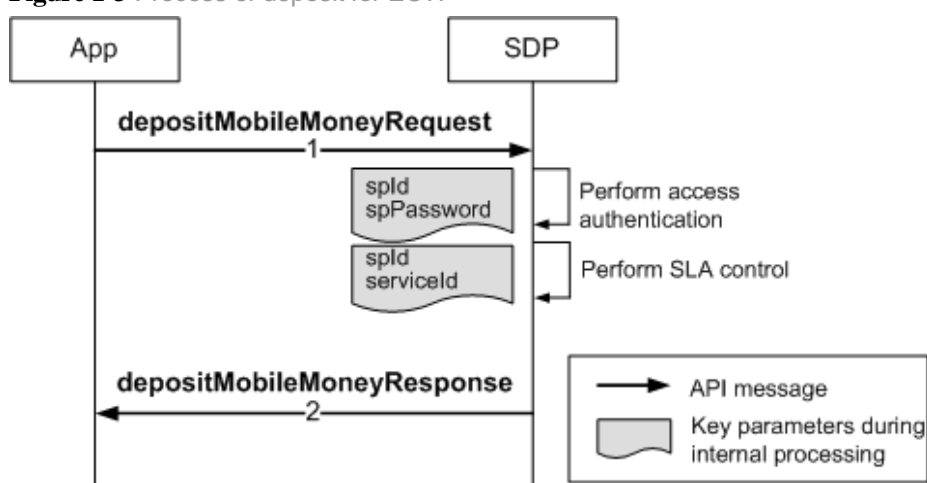


Table 1-29 describes the process for ECW.

Table 1-29 Description for the process of deposit for ECW

| Step | Description |
|------|-------------|
| 1 | The App invokes the depositMobileMoney API to deposit mobile money in subscriber's mobile money account. |
| 2 | • The SDP performs authentication and service level agreement (SLA) control based on fields in the request.<br>• The SDP sends deposit response to the App. |

### 1.4.2 DepositMobileMoney

#### Function

The App invokes the depositMobileMoney API to deposit money in Subscriber s mobile money account. Partners must code the App based on the API field requirements so that the App can send correct requests to the SDP. The SDP must send a response within 180 seconds by default.

*Request URI*

The request URI is the destination URI of depositMobileMoney messages sent by the App to the SDP. The URI is provided by the SDP in the following format:
**http://*IP*:*Port*/ThirdPartyServiceUMMImpl/UMMServiceService/DepositMobileMoney/v17**
In the format, **IP** and **Port** indicate the service IP address and SOAP port number of the API provided by the SDP. Contact carriers to obtain the IP address and port number.

## *1.4.3 Request for DepositMobileMoney*
The App functions as the client and sends a depositMobileMoneyRequest message to the SDP to recharge.

*Example*

```
POST /ThirdPartyServiceUMMImpl/UMMServiceService/DepositMobileMoney/v17 HTTP/1.1
Content-Type:text/xml
Content-Length:1069
Host:127.0.0.1
Signature:43AD232FD45FF
Cookie: sessionid=default8fcee064690b45faa9f8f6c7e21c5e5a


<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:b2b="http://b2b.mobilemoney.mtn.zm_v1.0/">
  <soapenv:Header>
    <RequestSOAPHeader xmlns="http://www.huawei.com.cn/schema/common/v2_1">
      <spId>35000001</spId>
      <spPassword>de96d901b3bad1db2aab76b7b0b202f2</spPassword>
      <bundleID>256000039</bundleID>
      <serviceId>35000001000035</serviceId>
      <timeStamp>20100727</timeStamp>
    </RequestSOAPHeader>
  </soapenv:Header>
  <soapenv:Body>
    <b2b:processRequest>
      <serviceId>201</serviceId>
      <parameter>
        <name>ProcessingNumber</name>
        <value>555</value>
      </parameter>
      <parameter>
        <name>serviceId</name>
        <value>102</value>
      </parameter>
      <parameter>
        <name>SenderID</name>
        <value>MOM</value>
```

```
        </parameter>
        <parameter>
           <name>PrefLang</name>
           <value>121212121</value>
        </parameter>
        <parameter>
           <name>OpCoID</name>
           <value>0</value>
        </parameter>
        <parameter>
           <name>MSISDNNum</name>
           <value> FRI:46733491234/MSISDN </value>
        </parameter>
        <parameter>
           <name>Amount</name>
           <value>10</value>
        </parameter>
        <parameter>
           <name>Narration</name>
           <value> FRI:< AcctRef > @water.company/SP </value>
        </parameter>
        <parameter>
           <name>IMSINum</name>
           <value>86</value>
        </parameter>
        <parameter>
           <name>OrderDateTime</name>
           <value>20100727</value>
        </parameter>
     </b2b:processRequest>
   </soapenv:Body>
 </soapenv:Envelope>
```

*Message HTTP Header Parameters*

Table 1-30 Describes parameters in a depositMobileMoneyRequest message HTTP header.

Table 1-30 Parameters in a depositMobileMoneyRequest message HTTP header

| Header Field | Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|---|
| Cookie | sessionid | String | | Conditional | The session id is used as a cookie in the HTTP header in the requests towards the Mobile Money Manager when the Partner use **Login/Logout** mode.<br>[Example] |

## 1 SOAP APIs

| Header Field | Paramet er | Type | Length | Level of Require ment | Description |
|---|---|---|---|---|---|
| | | | | | default8fcee064690b45faa9f8f6c7e21c5e5a<br>**NOTE**<br>Cookie is valid only for ECW and not for fundamo. |
| Signature/ | | String | | Condition al | Signature.<br>The field indicates the summary when the Partner uses HMAC security mode.<br>[Example]<br>43AD232FD45FF |

## *Message SOAP Header Parameters*

Table 1-31 describes parameters in a depositMobileMoneyRequest message SOAP header.

Table 1-31 Parameters in a depositMobileMoneyRequest message SOAP header

| Parameter | Type | Length | Level of Requirement | Description |
|-----------|------|--------|----------------------|-------------|
| spId | xsd: string | 21 | Mandatory | Partner ID.<br><br>The ID is automatically allocated by the SDP to partners after successful registration. To obtain the ID:<br><br>• A service Partner and API Partner can log in to the SDP management portal and query account information.<br><br>• A Developer can log in to the Developer Portal and query account information.<br><br>[Example]<br><br>000201 |

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| spPassword | xsd: string | 100 | Conditional | Authentication key for the SDP to authenticate partners.<br><br>The value is a character string encrypted from **spId** + **Password** + **timeStamp** by MD5. The encryption formula is: spPassword = MD5(spId + Password + timeStamp). In the formula:<br><br>• **spId** and **timeStamp**: authentication ID and timestamp.<br><br>• **Password**: password for partners to access the SDP.<br><br>   – A service Partner and API Partner can obtain the password from the email notification received after successful registration.<br><br>   – A Developer can log in to the Developer Portal, choose **Member Center** > **Account** > **Registration Information** > **Invoke Password**, and set the password.<br><br>The SDP supports authentication by **SP ID + Password**, **SP ID + IP address + Password**, or **SP ID + IP address**. Partners select an authentication mode during registration. If a partner selects authentication by **SP ID + Password** or **SP ID + IP address + Password**, this parameter is mandatory in requests sent by this partner.<br><br>[Example]<br><br>e6434ef249df55c7a21a0b45758a39bb |
| bundleID | xsd: string | 21 | Conditional | Bundle ID.<br><br>When SDP creates a capability bundle, SDP allocates a bundleID to capability bundle.<br><br>The **bundleID** must not be contained during invocation of a service interface developed by service partners and other partners, and must be contained during invocation of a capability interface developed by API partners, other partners, and developers.<br><br>[Example]<br><br>256000039 |

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| serviceId | xsd: string | 21 | Conditional | Service ID.<br><br>The ID is automatically allocated by the SDP to services after successful release. An service Partner can log in to the SDP management portal and query service information for the ID.<br><br>The **serviceId** must be contained during invocation of a service interface developed by service partners and other partners, and must not be contained during invocation of a capability interface developed by API partners, other partners, and developers.<br><br>[Example]<br>35000001000001 |
| timeStamp | xsd: string | 14 | Conditional | Timestamp (UTC time).<br><br>The value is used in MD5 encryption of **spPassword**.<br><br>This parameter is mandatory when the **spPassword** parameter is required.<br><br>[Format]<br>*yyyyMMddHHmmss*<br>[Example]<br>20100731064245 |

## *Message Body Parameters*

Table 1-32 describes parameters in a depositMobileMoneyRequest message body.

Table 1-32 Parameters in a depositMobileMoneyRequest message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| serviceId | xsd: string | 4 | Mandatory | Holds the identification number to identify the service request.<br><br>This is set as 201. |

**1 SOAP APIs**

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| parameter | Parameter[0..20] | - | Optional | Holds the request parameter details in the form of name/value pair to identify the service details.<br><br>Valid parameter names are:<br>• ProcessingNumber<br>• serviceId<br>• SenderID<br>• PrefLang<br>• OpCoID<br>• MSISDNNum<br>• Amount<br>• CurrCode<br>• Narration<br>• IMSINum<br>• OrderDateTime<br>For the detailed parameter name information, see Table 1-34.<br><br>The **parameter** parameter is of the Parameter[0..20] type and contains multiple sub-parameters. For details about the Parameter[0..20] type, see Table 1-33. |

Table 1-33 describes the parameter structure of the Parameter[0..20] type.

Table 1-33 Parameter structure of the Parameter[0..20] type

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| name | xsd:string | - | Mandatory | Holds the parameter name. |
| value | xsd:string | - | Mandatory | Holds the parameter value. |

Table 1-34 describes the parameter name lists.

## 1 SOAP APIs

Table 1-34 Parameter name lists

| name | value | | | |
|---|---|---|---|---|
| **Parameter** | **Type** | **Length** | **Level of Requirement** | **Description** |
| ProcessingNumber | xsd:string | 140 | Mandatory | An Id to uniquely identify the transaction on the App system. |
| serviceId | xsd:string | 140 | Optional | This relates to the **Code** configured in the Mobile Money system. Properties file is used to uniquely identify each service provided. |
| SenderID | xsd:string | 140 | Optional | An Id to identify sender. |
| PrefLang | xsd:string | 140 | Optional | The language locale to be used. |
| OpCoID | xsd:int | 140 | Optional | Identifier of the country local to be used. Please refer to 3.3 OpCoID List. |
| MSISDNNum | xsd:string | 30 | Mandatory | An Id to uniquely identify the subscriber on the App system. Subscriber's MSISDN number or Fake ID. [Format] • Mobile number: [Country code][Mobile number] • Fake ID: [Prefix]- [opcoid]-[sequence]. [Example] • Mobile number: 8612312345678 • Fake ID: f-245-11900000007639 Partner need to map the MSISDN from to FRI format expected by Mobile Money. e.g. FRI: 8612312345678/MSISDN |
| Amount | decimal | 4 | Mandatory | The value of the amount to be deposited into the subscriber's Mobile Money account. |
| Narration | xsd:string | 140 | Optional | A descriptive message for receiver's transaction history. If present, it will also be added to the notification text sent to the receiver. Partner need to map the Narration value to FRI format expected by Mobile Money. e.g. FRI:< *AcctRef* > @water.company/SP |

| name | value | | | |
|------|-------|---|---|---|
| **Parameter** | **Type** | **Length** | **Level of Requirement** | **Description** |
| IMSINum | xsd:string | 140 | Optional | Subscriber's IMSI number. |
| OrderDateTime | xsd:dateTime | 140 | Optional | Time when subscriber ordered the service. |

### 1.4.4 Response for DepositMobileMoney

The SDP functions as the server, processes depositMobileMoneyRequest messages received from the App, and sends depositMobileMoneyResponse messages to the App.

This topic provides a success response example. If a request fails, the SDP sends an error response that contains an error code. For details about error responses, see 1.6 API Error Responses.

### *Example*

```
HTTP/1.1 200 OK
Signature:43AD232FD45FF
Content-Length: 0
Server: Jetty(7.5.4.v20111024)

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <ns1:processRequestResponse xmlns:ns1="http://b2b.mobilemoney.mtn.zm_v1.0/">
      <return>
        <name>ProcessingNumber</name>
        <value>123</value>
      </return>
      <return>
        <name>SenderID</name>
        <value>MOM</value>
      </return>
      <return>
        <name>StatusCode</name>
        <value>234</value>
      </return>
      <return>
        <name>StatusDesc</name>
        <value>FAILED</value>
      </return>
      <return>
        <name>OpCoID</name>
        <value>0</value>
      </return>
      <return>
```

```
        <name>IMSINum</name>
         <value>86</value>
      </return>
      <return>
        <name>MSISDNNum</name>
       <value>13132132000</value>
      </return>
      <return>
        <name>OrderDateTime</name>
        <value>20100727</value>
      </return>
      <return>
        <name>ThirdPartyAcctRef</name>
        <value>121212</value>
      </return>
      <return>
        <name>MOMTransactionID</name>
        <value>456</value>
      </return>
    </ns1:processRequestResponse>
   </soapenv:Body>
 </soapenv:Envelope>
```

## *Message HTTP Header Parameters*

Table 1-35 Describes parameters in a depositMobileMoneyResponse message HTTP header.

Table 1-35 Parameters in a depositMobileMoneyResponse message HTTP header

| Header Field | Paramet er | Type | Length | Level of Require ment | Description |
|---|---|---|---|---|---|
| Signature | / | String | | Condition al | Signature. The field indicates the summary when the Partner uses HMAC security mode. [Example] 43AD232FD45FF |

## *Message Body Parameters*

Table 1-36 describes parameters in a depositMobileMoneyResponse message body.

Table 1-36 Parameters in a depositMobileMoneyResponse message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| return | Return[0..20] | - | Mandatory | Holds the response parameter details in the form of name/value pair to identify the service details. <br><br> Valid parameter names are: <br> • ProcessingNumber <br> • SenderID <br> • StatusCode <br> • StatusDesc <br> • OpCoID <br> • IMSINum <br> • MSISDNNum <br> • OrderDateTime <br> • ThirdPartyAcctRef <br> • MOMTransactionID <br><br> For the detailed parameter name information, see Table 1-38. <br><br> The **return** parameter is of the Return[0..20] type and contains multiple sub-parameters. For details about the Return[0..20] type, see Table 1-37. |

Table 1-37 describes the parameter structure of the Return[0..20] type.

Table 1-37 Parameter structure of the Return[0..20] type

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| name | xsd:string | - | Mandatory | Holds the parameter name. |
| value | xsd:string | - | Mandatory | Holds the parameter value. |

Table 1-38 describes the return name lists.

Table 1-38 Return name lists

| name | value | | | |
|------|-------|--|--|--|
| **Parameter** | **Type** | **Length** | **Level of Requirement** | **Description** |
| ProcessingNumber | xsd:string | 140 | Optional | An Id to uniquely identify the transaction on the App system. |
| SenderID | xsd:string | 140 | Optional | An Id to identify sender. This is set as MOM. |
| StatusCode | xsd:int | 2 | Mandatory | A predetermined code to determine the status of the transaction. |
| StatusDesc | xsd:string | 140 | Optional | The Mobile Money system supplied description of the response code. The value are as follow:<br>• SUCCESSFUL<br>• PENDING<br>• FAILED |
| OpCoID | xsd:string | 140 | Optional | Identifier of the country local to be used. Please refer to 3.3 OpCoID List. |
| IMSINum | xsd:string | 140 | Optional | Subscriber's IMSI number. |
| MSISDNNum | xsd:string | 30 | Optional | Subscriber's MSISDN number or Fake ID. |
| OrderDateTime | xsd:dateTime | 140 | Optional | Time when subscriber ordered the service. |
| ThirdPartyAcctRef | xsd:string | 140 | Optional | Subscriber's account number on the App system. The SDP will fill this parameter as the same value which was received from **AcctRef** in the request. |
| MOMTransactionID | xsd:long | 140 | Optional | An Id to uniquely identify the transaction on the Mobile Money system. The SDP will forward this parameter to the App system. |

### *1.4.5 Error Codes for DepositMobileMoney*

Table 1-39 describes depositMobileMoney error codes that the SDP may return upon an exception. For details about the error codes, see the *SDP Solution Error Code Reference*.

Table 1-39 depositMobileMoney error codes

| Error Code | Description |
|---|---|
| 01 | Successfully processed transaction. |
| 02 | Invalid account details. |
| 03 | Transaction not allowed. |
| 04 | Payment below minimum. |
| 05 | Invalid Fundamo userid/password. |
| 06 | Payment Entry not found. |
| 07 | Missing transaction/message ID. |
| 08 | Missing application version. |
| 100 | General failure. |
| | Get addr route info failed!the baseScfType = %1,the sourceAddr = %2,the destAddr = %3.<br>**NOTE**<br>  ScfType refers to Service Capability Function Type. |
| | MDSP AuthPrice failed, result code is %1.<br>**NOTE**<br>  The MDSP is composed of the Mobile Data Control Center (MDCC) subsystem and peripheral functional subsystems such as the Portal and Mobile Data Management Center (MDMC). The MDCC subsystem consists of core modules such as the Short Message Push Agent (SMPA), Network Management System (NMS) proxy, and BOSS interface machine. The MDSP is connected to the NMS, BOSS system, Service Control Point (SCP), customer service center, and service gateways. The MDSP can implement the functions such as external entity access, mobile data management, user and service authentication, and charging. |
| | Waiting for response timed out, message type is %1. |
| | Cannot find route policy, the policy identifier is %1. |
| | The service status is unknown. |
| | Service %1 is in blacklist! |
| | The API %1 is not existed. |
| | Service ID %1 is not exist! |
| | The service status is suspended. |
| | The service status is pre-deregistered. |

| Error Code | Description |
|---|---|
| | The service status is deregistered. |
| | The API status is disabled. |
| | SP status is locked. |
| | The sp's Status is forbidden. |
| | The sp's status is pause. |
| | The RemotePassword of NE %1 is empty!<br>**NOTE**<br>NE refers to network element, such as SMSC, MMSC. |
| | NEInfo id %1 not in SAG.<br>**NOTE**<br>The SAG provides open interfaces for third-party partners. It authenticates and authorizes the partners, and controls the Service Level Agreement policies when it receives third-party service requests. |
| | The ScfType %1 is inactive!<br>**NOTE**<br>ScfType refers to Service Capability Function Type. |
| | The ScfType %1 is uninstalled!<br>**NOTE**<br>ScfType refers to Service Capability Function Type. |
| | The service status is configuring. |
| | The Created is null. |
| | SP ip is null! |
| | Sp password is null! |
| | The Nonce is null. |
| | Authentication Failed, cause by SP, because of timestamp expired. |
| | Service ID is null! |
| | Sp password is null! |
| | Timestamp is empty in soapheader. |
| | Service ID %1 is invalid! |
| | The PasswordDigest is not accepted. |

| Error Code | Description |
|---|---|
|  | The sp's Status is pre-deregistered. |
|  | The sp's Status is deregistered. |
|  | The sp's Status is unknown. |
|  | SP %1 is in blacklist! |
|  | SPID %1 is not exist! |
|  | Sp password is not accepted! |
|  | Sp ip %1 is not accepted! |
|  | local SP password is null! |
|  | The authentication type is unknown! |
|  | Authentication Failed, cause by SP, because of timestamp is not valid. |
|  | Minimum Amount per Transaction |
|  | %1 is null. |
| 101 | Field length exceeded. |
| 102 | Subscriber could not be identified. (Invalid subscriberID). |
|  | %1 is null. |
| 103 | Duplicate transaction id. |
| 104 | Authorisation declined. |
| 105 | Non-existent Mobile Acc. |
| 106 | Deposit Transfer not processed: Own Mobile Account Number entered. |
| 107 | Deposit Transfer not processed: Invalid amount format. |
| 108 | Deposit Transfer not processed: Insufficient funds |
| 109 | Deposit Transfer not processed: Daily limit has been exceeded. |
| 110 | Deposit Transfer not processed: Source account not active |
| 111 | Deposit Transfer not processed: Mobile Account Number is not active. |
| 501 | DATEFORMAT_INVALID |
| 502 | FRI_INVALID |
| 503 | IDENTITY_INVALID |

| Error Code | Description |
| --- | --- |
| 504 | INVALID_FIELD_VALUE |
| 505 | MANDATORY_FIELD_MISSING |
| 506 | OTHER_FINANCIAL_ERROR |
| 507 | PREAPPROVAL_NOT_FOUND |
| 508 | REFERENCE_ID_NOT_FOUND |
| 509 | REQUIRED_FIELD_MISSING |
| 510 | SERVICE_TEMPORARILY_UNAVAILABLE |
| 511 | SESSION_INVALID |
| 512 | TRANSACTION_ID_OR_ORIGINAL_TRANSACTION_ID_MISSING |
| 513 | TRANSACTION_NOT_COMPLETED |
| 514 | TRANSFER_TYPE_AND_ACCOUNT_DO_NOT_MATCH |
| 515 | ACCOUNTHOLDER_WITH_FRI_NOT_FOUND |
| 516 | ACCOUNTHOLDER_WITH_MSISDN_NOT_FOUND |
| 517 | AUTHORIZATION_INVALID_ACCOUNT_TYPE_COMBINATION |
| 518 | COULD_NOT_PERFORM_OPERATION |
| 519 | EXPIRED_OR_INVALID_TRANSACTION_ID |
| 520 | INCORRECT_PASSWORD |
| 521 | NOT_AUTHORIZED |
| 522 | AMOUNT_INVALID |
| 523 | CURRENCY_NOT_SUPPORTED |
| 524 | INVALID_CURRENCY |
| 525 | RESOURCE_NOT_ACTIVE |
| 526 | SOURCE_NOT_FOUND |
| 527 | RESOURCE_NOT_FOUND |
| 528 | Any Other Error Code |

# 1.5 APIs for Querying Subscriber Account Balances

## 1.5.1 Process

Figure 1-4 shows the process of querying subscriber account balance for ECW.

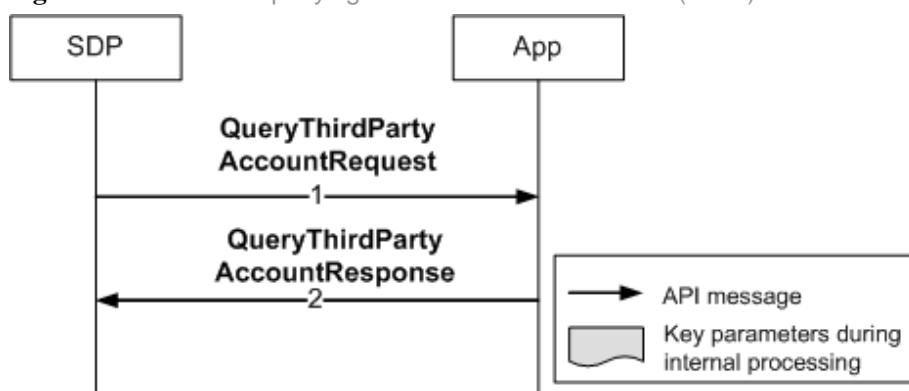**Figure 1-4** Process of querying subscriber account balance(ECW)



Table 1-40 describes the process.

Table 1-40 Description for the process of querying subscriber account balance(ECW)

| Step | Description |
|---|---|
| 1 | The SDP sends querying subscriber account balance request to the SDP. |
| 2 | The App parses the querying subscriber account balance request and sends a response to the SDP. |

## 1.5.2 QueryThirdPartyAccount

### Function

The SDP (functioning as the client) invokes the QueryThirdPartyAccount API to send querying subscriber account balance requests to the App (functioning as the server).
Partners must code the App based on the API field requirements so that the App can correctly parse and respond to requests received from the SDP. The App must send a response to the SDP within 30 seconds.

### Request URI

The request URI is the destination URI of QueryThirdPartyAccountRequest messages sent by the SDP to the App. The URI is defined by the App.

### 1.5.3 Request for QueryThirdPartyAccount

The SDP functions as the client and sends a QueryThirdPartyAccountRequest message to the App to query subscriber account balance.

*Example*

```
POST /ThirdPartyServiceUMMImpl/UMMServiceService/QueryThirdPartyAccount HTTP/1.1
Content-Type:text/xml
Content-Length:1069
Host:127.0.0.1
Signature:43AD232FD45FF

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Header>
    <ns1:NotifySOAPHeader xmlns:ns1="http://www.huawei.com.cn/schema/common/v2_1">
      <ns1:traceUniqueID>50402150582120727170455000202002</ns1:traceUniqueID>
    </ns1:NotifySOAPHeader>
  </soapenv:Header>
  <soapenv:Body>
    <ns2:processRequest xmlns:ns2="http://b2b.mobilemoney.mtn.zm_v1.0/">
      <serviceId>100</serviceId>
      <parameter>
        <name>ProcessingNumber</name>
        <value>1212121</value>
      </parameter>
      <parameter>
        <name>senderID</name>
        <value>MOM</value>
      </parameter>
      <parameter>
        <name>AcctRef</name>
        <value> FRI:46733491234/MSISDN </value>
      </parameter>
      <parameter>
        <name>PrefLang</name>
        <value>121212121</value>
      </parameter>
      <parameter>
        <name>OpCoID</name>
        <value>0</value>
      </parameter>
    </ns2:processRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

## *Message HTTP Header Parameters*

Table 1-41 Describes parameters in a QueryThirdPartyAccountRequest message HTTP header.

Table 1-41 Parameters in a QueryThirdPartyAccountRequest message HTTP header

| Header Field | Paramet er | Type | Length | Level of Require ment | Description |
|---|---|---|---|---|---|
| Signature | / | String | | Condition al | Signature. The field indicates the summary when the Partner uses HMAC security mode. [Example] 43AD232FD45FF |

## *Message SOAP Header Parameters*

Table 1-42 describes parameters in a QueryThirdPartyAccountRequest message header.

Table 1-42 Parameters in a QueryThirdPartyAccountRequest message header

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| traceUniqueID | xsd:string | 30 | Mandatory | Transaction ID. The ID is automatically generated by the SDP and is used only to trace messages during the SDP commissioning. The App ignores this parameter. [Example] 1000012001011106230217210000111 |

## *Message Body Parameters*

Table 1-43 describes parameters in a QueryThirdPartyAccountRequest message body.

Table 1-43 Parameters in a QueryThirdPartyAccountRequest message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| serviceId | xsd: string | 4 | Mandatory | Holds the identification number to identify the service request. This is set as 100. |

**1 SOAP APIs**

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| parameter | Parameter[0..20] | - | Optional | Holds the request parameter details in the form of name/value pair to identify the service details. Valid parameter names are: <br>• ProcessingNumber <br>• SenderID <br>• AcctRef <br>• PrefLang <br>• OpCoID <br>For the detailed parameter name information, see Table 1-45. <br>The **parameter** parameter is of the Parameter[0..20] type and contains multiple sub-parameters. For details about the Parameter[0..20] type, see Table 1-44. |

Table 1-44 describes the parameter structure of the Parameter[0..20] type.

Table 1-44 Parameter structure of the Parameter[0..20] type

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| name | xsd:string | - | Mandatory | Holds the parameter name. |
| value | xsd:string | - | Mandatory | Holds the parameter value. |

Table 1-45 describes the parameter lists.

Table 1-45 Parameter name lists

| name | value | | | |
|---|---|---|---|---|
| Parameter | Type | Length | Level of Requirement | Description |
| ProcessingNumber | xsd:string | 140 | Optional | An Id to uniquely identify the transaction on the App system. |
| SenderID | xsd:string | 140 | Optional | An Id to identify sender. This is set as MOM. |

## 1 SOAP APIs

| name | value | | | |
|------|-------|------|------|------|
| **Parameter** | **Type** | **Length** | **Level of Requirement** | **Description** |
| AcctRef | xsd:string | 140 | Mandatory | Subscriber's account number on the App system. |
| | | | | If the subscriber does not have account on the App system, you need confirm it with the Mobile Money system. |
| | | | | The values send to SP will be in format like: |
| | | | | • FRI:46733491234/MSISDN |
| | | | | • FRI:12345ABC@water.company/ SP |
| PrefLang | xsd:string | 140 | Optional | The language locale to be used. |
| OpCoID | xsd:string | 140 | Optional | Identifier of the country local to be used. Please refer to 3.3 OpCoID List. |

### 1.5.4 Response for QueryThirdPartyAccount

The App functions as the server, processes QueryThirdPartyAccountRequest messages received from the SDP, and sends QueryThirdPartyAccountResponse messages to the SDP.

This topic provides a success response example. If a request fails, the SDP sends an error response that contains an error code. For details about error responses, see 1.6 API Error Responses.

*Example*

```
HTTP/1.1 200 OK
Signature:43AD232FD45FF
Content-Length: 0
Server: Jetty(7.5.4.v20111024)

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:b2b="http://b2b.mobilemoney.mtn.zm_v1.0/">
  <soapenv:Header/>
  <soapenv:Body>
    <b2b:processRequestResponse>
      <return>
        <name>DueAmount</name>
        <value>121212</value>
      </return>
      <return>
        <name>BalanceAmount</name>
```

```
                 <value>2121</value>
          </return>
          <return>
                 <name>MinDueAmount</name>
                 <value>121212</value>
          </return>
          <return>
                 <name>Narration</name>
                 <value>121212</value>
          </return>
          <return>
                 <name>ProcessingNumber</name>
                 <value>121212</value>
          </return>
          <return>
                 <name>StatusCode</name>
                 <value>121212</value>
          </return>
          <return>
                 <name>ThirdPartyAcctRef</name>
                 <value>121212</value>
          </return>
          <return>
                 <name>StatusDesc</name>
                 <value>121212</value>
          </return>
          </b2b:processRequestResponse>
     </soapenv:Body>
  </soapenv:Envelope>
```

*Message HTTP Header Parameters*

Table 1-46 Describes parameters in a QueryThirdPartyAccountResponse message HTTP header.

Table 1-46 Parameters in a QueryThirdPartyAccountResponse message HTTP header

| Header Field | Paramet er | Type | Length | Level of Require ment | Description |
|---|---|---|---|---|---|
| Signature | / | String | | Condition al | Signature. The field indicates the summary when the Partner uses HMAC security mode. [Example] 43AD232FD45FF |

## *Message Body Parameters*

Table 1-47 describes parameters in a QueryThirdPartyAccountResponse message body.

Table 1-47 Parameters in a QueryThirdPartyAccountResponse message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| return | Return[0..20] | - | Mandatory | Holds the response parameter details in the form of name/value pair to identify the service details. Valid parameter names are: <br>• DueAmount <br>• BalanceAmount <br>• MinDueAmount <br>• Narration <br>• ProcessingNumber <br>• StatusCode <br>• ThirdPartyAcctRef <br>• StatusDesc <br>For the detailed parameter name information, see Table 1-49. <br>The **return** parameter is of the Return[0..20] type and contains multiple sub-parameters. For details about the Return[0..20] type, see Table 1-48. |

Table 1-48 describes the parameter structure of the Return[0..20] type.

Table 1-48 Parameter structure of the Return[0..20] type

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| name | xsd:string | - | Mandatory | Holds the parameter name. |
| value | xsd:string | - | Mandatory | Holds the parameter value. |

Table 1-49 describes the return name lists.

Table 1-49 Return name lists

| name | value | | | |
|------|-------|--------|----------------------|-------------|
| **Parameter** | **Type** | **Length** | **Level of Requirement** | **Description** |
| DueAmount | decimal | 4 | Mandatory | The amount that the subscriber is due to pay on the App system. |
| BalanceAmount | xsd:int | 4 | Optional | Subscriber's balance on the App system.<br><br>If there is no subscriber's balance on the App system, you need confirm it with the Mobile Money system. |
| MinDueAmount | xsd:string | 4 | Optional | The minimum amount that the subscriber is due to pay on the App system.<br><br>If there is no minimum due on App system, you need confirm it with the Mobile Money system. |
| Narration | xsd:string | 140 | Optional | Any text that the vendor would like to display to the subscriber. |
| ProcessingNumber | xsd:string | 140 | Optional | The identifier of the transaction echoed back. |
| StatusCode | xsd:string | 2 | Optional | A predetermined code to determine the status of the transaction. |
| ThirdPartyAcctRef | xsd:string | 140 | Optional | Subscriber's account number on the App system.<br><br>The SDP will fill this parameter as the same value which was received from **AcctRef** in the request. |
| StatusDesc | xsd:string | 140 | Optional | The App system supplied description of the response code. |

## 1.5.5 Error Codes for QueryThirdPartyAccount

The App returns error codes to the SDP when an exception occurs in response to QueryThirdPartyAccountRequest messages. The error codes are defined by partners.
The following table describes QueryThirdPartyAccount error codes that the partners may return upon an exception.

Table 1-50 QueryThirdPartyAccount error codes

| Error Code | Description |
|---|---|
| 01 | Successfully processed transaction. |
| 02 | Invalid account details. |
| 03 | Transaction not allowed. |
| 04 | Payment below minimum. |
| 05 | Invalid Fundamo userid/password. |
| 06 | Payment Entry not found. |
| 07 | Missing transaction/message ID. |
| 08 | Missing application version. |
| 100 | General failure. |
| 101 | Field length exceeded. |
| 102 | Subscriber could not be identified. (Invalid subscriberID). |
| 103 | Duplicate transaction id. |

## 1.6 API Error Responses

When a error occurs, the server sends a error response to the client. This topic provides a error response example and describes parameters in the response.

### Example

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <ns1:processRequestResponse xmlns:ns1="http://b2b.mobilemoney.mtn.zm_v1.0">
      <return>
        <name>ProcessingNumber</name>
        <value>555</value>
      </return>
      <return>
        <name>ThirdPartyAcctRef</name>
        <value>444</value>
      </return>
      <return>
        <name>senderID</name>
        <value>MOM</value>
```

```
        </return>
        <return>
            <name>StatusCode</name>
            <value>222</value>
        </return>
        <return>
            <name>StatusDesc</name>
            <value>333</value>
        </return>
        <return>
            <name>MOMTransactionID</name>
            <value>111</value>
        </return>
    </ns1:processRequestResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

## *Message Body Parameters*

Table 1-14, Table 1-21, Table 1-36, and Table 1-47 define the fields in a error response sent by the server to the client.

# 02

## HTTP APIs

## 2.1 Overviews

### 2.1.1 MT Message Header

### Request Message Header Parameters

Table 2-1 describes the parameters in a MT request message header.

Table 2-1 parameters in a MT request message header

| Header Field | Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|---|
| Authorization | / | String | 10 | Mandatory | Authentication mode.<br>The SDP uses the WSSE authentication mode, in which the **realm** and **profile** parameters are involved.<br>**NOTE**<br>   The **Authorization** value indicates the policy used by the SDP to perform authentication at the application layer. The SDP authenticates a third-party in WSSE UsernameToken mode.<br>[Example]<br>WSSE |
| | realm | String | 20 | Mandatory | Set it to **SDP**.<br>[Example]<br>SDP |
| | profile | String | 20 | Mandatory | SDP access mechanism. Set it to **UsernameToken**.<br>[Example]<br>UsernameToken |

**2 HTTP APIs**

| Header Field | Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|---|
| X-WSSE | / | String | 30 | Mandatory | WSSE authentication flag.<br><br>To enable the SDP to perform authentication at the application layer in the WSSE UsernameToken mode, set this parameter to **UsernameToken**.<br><br>[Example]<br><br>UsernameToken |
| | Username | String | 21 | Mandatory | Partner ID.<br><br>The ID is automatically allocated by the SDP to partners after successful registration. To obtain the ID:<br><br>• A service Partner and API Partner can log in to the SDP Management Portal and query account information, or log in to the mailbox used for registration and view the email notification received after successful registration.<br><br>• A Developer can log in to the Developer Portal and query account information, or log in to the mailbox used for registration and view the email notification received after successful registration.<br><br>[Example]<br><br>2340110001412 |
| | PasswordDigest | String | 100 | Mandatory | Authentication key for the SDP to authenticate partners.<br><br>The value is a character string encrypted from **Nonce + Created + Password** by SHA-1 and Base64 in sequence. The encryption formula is as follows: PasswordDigest = Base64(SHA-1(Nonce + Created + Password)). In the formula:<br><br>• **Nonce** and **Created**: random number and its generation time.<br><br>• **Password**: password for partners to access the SDP.<br><br>   – A service Partner and API Partner can obtain the password from the email notification received after successful registration.<br><br>   – A Developer can log in to the Developer Portal, choose **Member Center** > **Account** > **Registration Information** > **Invoke Password**, and set the password.<br><br>[Example]<br><br>206D88BB7F3D154B130DD6E1E0B8828B |

| Header Field | Paramet er | Type | Length | Level of Require ment | Description |
|---|---|---|---|---|---|
| | Nonce | String | 30 | Mandator y | Random number generated by SDP when sending a message.<br>[Example]<br>66C92B11FF8A425FB8D4CCFE0ED9ED1F |
| | Created | String | 20 | Mandator y | UTC time when the **Nonce** value is generated.<br>[Format]<br>yyyy-MM-dd'T'HH:mm:ss'Z'<br>[Example]<br>2011-03-22T13:47:56Z |
| X-Reque stHeader | / | String | 10 | Mandator y | Type of the message sent by a third party.<br>Set it to **request**.<br>[Example]<br>request |
| | ServiceId | String | 21 | Condition al | Service ID.<br>The ID is automatically allocated by the SDP to services after successful release. A service Partner can log in to the SDP Management Portal and query service information for the ID.<br>The **serviceId** must be contained during invocation of a service interface developed by service partners and other partners, and must not be contained during invocation of a capability interface developed by API partners, other partners, and developers.<br>[Example]<br>35000001000001 |
| | TransId | String | 30 | Mandator y | Transaction ID.<br>The ID is automatically generated by the SDP and is used only to trace messages during the SDP commissioning. The App ignores this parameter.<br>[Example]<br>1000012001011106230217210000011 |
| | LinkId | String | 20 | Condition al | Service order ID.<br>The ID is automatically generated by the SDP when a user orders a service in the SDP. This parameter is mandatory during service ordering by SMS message.<br>[Example] |

| Header Field | Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|---|
| | | | | | 12345678901111 |
| | FA | xsd:string | 30 | Mandatory | Mobile number or the fake ID of the charged party. [Example] • Mobile number: 8612312345678 • Fake ID: f-245-11900000007639 |
| Cookie | sessionid | String | | Conditional | The session id is used as a cookie in the HTTP header in the requests towards the Mobile Money Manager. [Example] default8fcee064690b45faa9f8f6c7e21c5e5a **NOTE** Cookie is valid only for ECW and not for fundamo. |
| Msisdn | / | String | | Mandatory | A valid unique MSISDN of the user. [Format] Countrycode + MSISDN number [Example] 23415905193050 |
| Signature | / | String | | Conditional | Signature. The field indicates the summary when the Partner uses HMAC security mode. [Example] 43AD232FD45FF |
| X-HW-Extension | / | / | / | Optional | Extension field. [Format] key1=value1;key2=value2 |
| destPartnerId | / | String | 21 | Conditional | For A2A scenario, it indicates the identifier of the destination partner. |

*Response Message Header Parameters*

Table 2-2 describes the parameters in a MT response message header.

Table 2-2 parameters in a MT response message header

| Header Field | Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|---|
| WWW-Authenticate | / | String | 10 | Mandatory | Authentication mode. The SDP uses the WSSE authentication mode, in which the **realm** and **profile** parameters are involved. **NOTE** The **Authorization** value indicates the policy used by the SDP to perform authentication at the application layer. The SDP authenticates a third-party in WSSE UsernameToken mode. [Example] WSSE |
|  | realm | String | 20 | Mandatory | Set it to **SDP**. [Example] SDP |
|  | profile | String | 20 | Mandatory | SDP access mechanism. Set it to **UsernameToken**. [Example] UsernameToken |
| Set-Cookie | sessionid | String |  | Conditional | The Cookie of the response message when the Partner invokes the **Login** interface. [Example] default1937332605ff4d27a1108f424ade0715 |
| Signature | / | String |  | Conditional | Signature. The field indicates the summary when the Partner uses HMAC security mode. [Example] 43AD232FD45FF |
| X-HW-Extension | / | / | / | Optional | Extension field. [Format] key1=value1;key2=value2 |

### 2.1.2 MO Message Header

*Request Message Header Parameters*

Table 2-3 describes the parameters in a MO request message header.

**2 HTTP APIs**

Table 2-3 parameters in a MO request message header

| Header Field | Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|---|
| Authorization | / | String | 10 | Mandatory | Authentication mode.<br>The SDP uses the WSSE authentication mode, in which the **realm** and **profile** parameters are involved.<br>**NOTE**<br>The **Authorization** value indicates the policy used by the SDP to perform authentication at the application layer. The SDP authenticates a third-party in WSSE UsernameToken mode.<br>[Example]<br>WSSE |
| | realm | String | 20 | Mandatory | Set it to **SDP**.<br>[Example]<br>SDP |
| | profile | String | 20 | Mandatory | SDP access mechanism. Set it to **UsernameToken**.<br>[Example]<br>UsernameToken |
| X-WSSE | / | String | 30 | Mandatory | WSSE authentication flag.<br>To enable the SDP to perform authentication at the application layer in the WSSE UsernameToken mode, set this parameter to **UsernameToken**.<br>[Example]<br>UsernameToken |
| | Username | String | 21 | Mandatory | Partner ID.<br>The ID is automatically allocated by the SDP to partners after successful registration. To obtain the ID:<br>• A service Partner and API Partner can log in to the SDP Management Portal and query account information, or log in to the mailbox used for registration and view the email notification received after successful registration.<br>• A Developer can log in to the Developer Portal and query account information, or log in to the mailbox used for registration and view the email notification received after successful registration.<br>[Example]<br>2340110001412 |

**2 HTTP APIs**

| Header Field | Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|---|
| | Password dDigest | String | 100 | Mandatory | Authentication key for the SDP to authenticate partners. The value is a character string encrypted from **Nonce + Created + Password** by SHA-1 and Base64 in sequence. The encryption formula is as follows: PasswordDigest = Base64(SHA-1(Nonce + Created + Password)). In the formula: <br>• **Nonce** and **Created**: random number and its generation time. <br>• **Password**: password for partners to access the SDP. <br> − A service Partner and API Partner can obtain the password from the email notification received after successful registration. <br> − A Developer can log in to the Developer Portal, choose **Member Center** > **Account** > **Registration Information** > **Invoke Password**, and set the password. <br>[Example] <br>206D88BB7F3D154B130DD6E1E0B8828B |
| | Nonce | String | 30 | Mandatory | Random number generated by SDP when sending a message. <br>[Example] <br>66C92B11FF8A425FB8D4CCFE0ED9ED1F |
| | Created | String | 20 | Mandatory | UTC time when the **Nonce** value is generated. <br>[Format] <br>yyyy-MM-dd'T'HH:mm:ss'Z' <br>[Example] <br>2011-03-22T13:47:56Z |
| X-NotifyHeader | / | String | 10 | Mandatory | Type of the message sent by the SDP. <br>Set it to **notify**. <br>[Example] <br>notify |

| Header Field | Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|---|
| | TransId | String | 30 | Mandatory | Transaction ID. <br> The ID is automatically generated by the SDP and is used only to trace messages during the SDP commissioning. The App ignores this parameter. <br> [Example] <br> 100001200101110623021721000011 |
| | LinkId | String | 20 | Conditional | Service order ID. <br> The ID is automatically generated by the SDP when a user orders a service in the SDP. This parameter is mandatory during service ordering by SMS message. <br> [Example] <br> 12345678901111 |
| Signature | / | String | | Conditional | Signature. <br> The field indicates the summary when the Partner uses HMAC security mode. <br> [Example] <br> 43AD232FD45FF |
| X-HW-Extension | / | / | / | Optional | Extension field. <br> [Format] <br> key1=value1;key2=value2 |

*Response Message Header Parameters*

Table 2-4 describes the parameters in a MO response message header.

Table 2-4 parameters in a MO response message header

| Header Field | Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|---|
| WWW-Authenticate | / | String | 10 | Mandatory | Authentication mode.<br>The SDP uses the WSSE authentication mode, in which the **realm** and **profile** parameters are involved.<br>**NOTE**<br>The **Authorization** value indicates the policy used by the SDP to perform authentication at the application layer. The SDP authenticates a third-party in WSSE UsernameToken mode.<br>[Example]<br>WSSE |
| | realm | String | 20 | Mandatory | Set it to **SDP**.<br>[Example]<br>SDP |
| | profile | String | 20 | Mandatory | SDP access mechanism. Set it to **UsernameToken**.<br>[Example]<br>UsernameToken |
| Signature | / | String | | Conditional | Signature.<br>The field indicates the summary when the Partner uses HMAC security mode.<br>[Example]<br>43AD232FD45FF |
| X-HW-Extension | / | / | / | Optional | Extension field.<br>[Format]<br>key1=value1;key2=value2 |

### 2.1.3 MO Message Header for A2A Scenario

*Request Message Header Parameters*

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| version | String | 5 | Mandatory | Protocol version number.<br>Set this parameter to **1.0**. |
| traceUniq | String | 30 | Mandatory | Message ID. |

| Paramet er | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| ueID | | | | Value of **traceUniqueID** is in the format *AAAAAAAXXXBBBBBBBBBBBBCCCCDDD*, which consists of 30 digits. |
| | | | | • *AAAAAAA* indicates the type of the first component or module that generates **traceUniqueID**. The value of *AAAAAAA* is the same as the ID of the product module. Prefix the module ID of less than 7 digits with zeros. |
| | | | | • *XXXX*: identifies a node of the component that generates **traceUniqueID** if the component is deployed in a cluster. The value is the sum of the four octets of the IP address for the node. Assume that the IP address of a node is 192.168.10.2. The value of *XXXX* is **0372**. |
| | | | | • *BBBBBBBBBBBB:* dynamically generated by the first component that generates **traceUniqueID**. The entry component must ensure that the value of **traceUniqueID** is unique in different messages. It is recommended that **BBBBBBBBBBBB** should be generated as *YYMMDDHHMMSS*, where YY indicates the year, such as 09; the first MM indicates the month, such as 08; DD indicates the day, such as 31; HH indicates the hour, such as 13; the second MM indicates the minute, such as 31; SS indicates the second, such as 31. |
| | | | | • *CCCC*: indicates the serial number that begins with 0001. The component that generates **traceUniqueID** needs to check whether the first 23 digits of a service process are the same. If yes, the component distinguishes the service process by using *CCCC*. The value of *CCCC* ranges from 0001 to 9999 (assume that a maximum of 9999 service operations can be performed in a second). |
| | | | | • *DDD*: indicates the serial number of the message. The value of *DDD* in **traceUniqueID** generated by the first component is **001**. Otherwise, increase the value of *DDD* in **traceUniqueID** by **1**. |
| sourceDe viceType | Int4 | 4 | Mandatory | SP type. This parameter has a fixed value of **110000**. |
| sourceDe viceCode | String | 21 | Mandatory | SP ID. |
| destDevi | Int4 | 4 | Mandatory | SAG type. This parameter has a fixed value of **1000**. |

| Paramet er | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| ceType | | | | |
| destDevi ceCode | String | 21 | Mandatory | SAG ID. This parameter has a fixed value of **1000**. |
| authentic atorSour ce | String | 256 | Optional | Access password of the SP. The password encryption formula is as follows: MD5(SPID+PASSWORD+TIMESTAMP) |
| timeStam p | String | 14 | Optional | Time stamp in the format *YYYYMMDDHHMMSS*. The time must be UTC time. |
| destPartn erId | String | 10 | Mandatory | For an A2A scenario, it indicates the identifier of the destination partner. |
| extension | String | 100 | Optional | Extended field. [Format] key1=value1;key2=value2 |

## *2.2 Account Validation & Information*

### *2.2.1 login*

*Process*

**Figure 2-1** Process of login
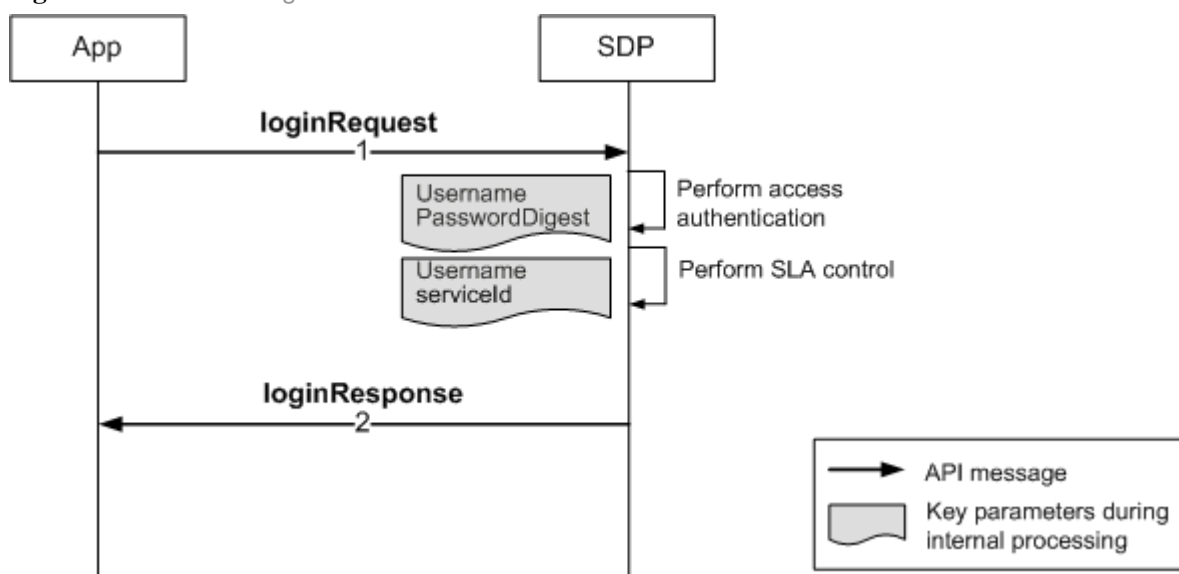
**2 HTTP APIs**

## *Function*

Identifying oneself to the system by entering one's credential.

## *Request URI*

The request URI is the destination URI of preapproval messages sent by the App to the SDP. The URI is provided by the SDP in the following format:
**http://IP:Port/mom/mt/login**
In the format, IP and Port indicate the service IP address and SOAP port number of the API provided by the SDP. Contact carriers to obtain the IP address and port number.

## *Request Message Body Example*

```
POST /mom/mt/login HTTP/1.1
Content-Type:text/xml
Content-Length:1069
Host:127.0.0.1
Authorization: WSSE realm="SDP", profile="UsernameToken"
X-WSSE: UsernameToken Username="bob", PasswordDigest=" weYI3nXd8LjMNVksCKFV8t3rgHh3Rw==", Nonce="
WScqanjCEAC4mQoBE07sAQ==", Created="2012-07-26T11:31:26Z"
X-RequestHeader: request ServiceId="35000001000012", TransId=" 200903241230451000000123456789" ,
LinkId="A15Y89Z32T99", FA="8613912345678"
Signature:43AD232FD45FF
Cookie: sessionid=default8fcee064690b45faa9f8f6c7e21c5e5a
Msisdn: 861111111
X-HW-Extension: k1=v1;k2=v2
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:loginrequest xmlns:ns2="http://www.ericsson.com/lwac">
   <identity>sp1</identity>
   <credential>
      <secret>ABc123456!</secret>
      <type>password</type>
   </credential>
</ns2:loginrequest>
```

## *Message Body Parameters*

Table 2-5 describes parameters in a message body.

Table 2-5 Parameters in a message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| identity | string | | Mandatory | Identity of user. |
| credential | credential | | Mandatory | Credential used to verify the users identity. |
| newcredential | credential | | Optional | Used if the credential shall be replaced during login. |

## 2 HTTP APIs

### Function

The APP (functioning as the client) invokes the Logout API to log out to the SDP (functioning as the server).

### Request URI

The request URI is the destination URI of Paymentcompleted messages sent by the App to the SDP. The URI is provided by the SDP in the following format:

**http://IP:Port/mom/mt/logout**

In the format, IP and Port indicate the service IP address and SOAP port number of the API provided by the SDP. Contact carriers to obtain the IP address and port number.

### Request

The SDP functions as the client and sends a Logout message to the App.

### Message Body Example

The message body is empty.

```
POST /mom/mt/logout HTTP/1.1
Content-Type:text/xml
Content-Length:1069
Host:127.0.0.1
Authorization: WSSE realm="SDP", profile="UsernameToken"
X-WSSE: UsernameToken Username="bob", PasswordDigest=" weYI3nXd8LjMNVksCKFV8t3rgHh3Rw==", Nonce="
WScqanjCEAC4mQoBE07sAQ==", Created="2012-07-26T11:31:26Z"
X-RequestHeader: request ServiceId="35000001000012", TransId=" 200903241230451000000123456789" ,
LinkId="A15Y89Z32T99", FA="8613912345678"
Signature:43AD232FD45FF
Cookie: sessionid=default8fcee064690b45faa9f8f6c7e21c5e5a
Msisdn: 861111111
X-HW-Extension: k1=v1;k2=v2
```

### Message Body Parameters

None

### Response

An empty response indicates success.
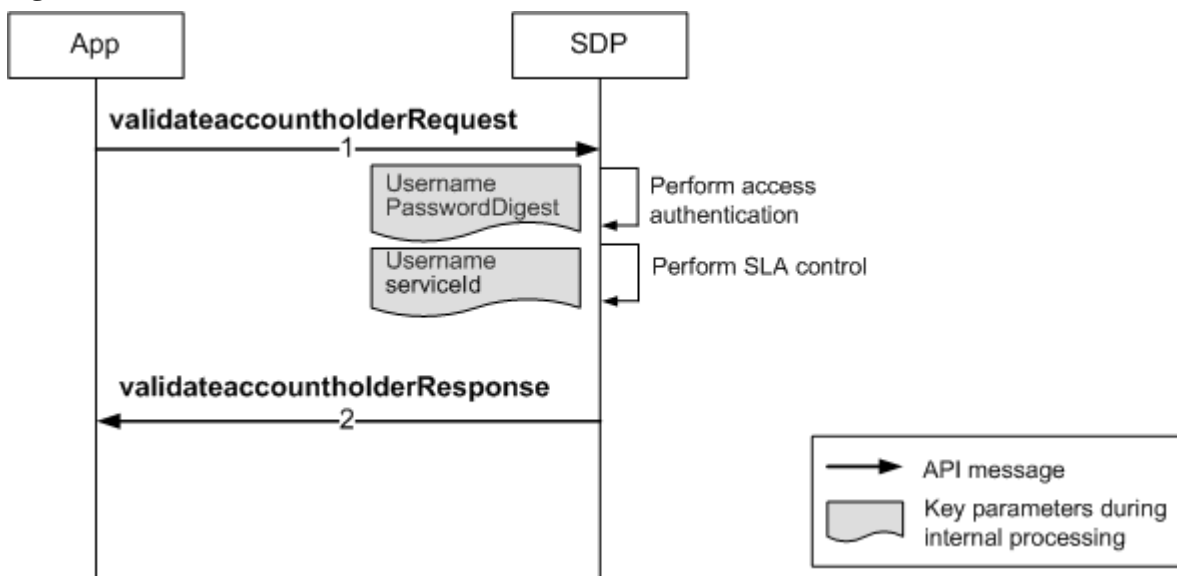
A success response example:

```
HTTP/1.1 200 OK
Signature:43AD232FD45FF
Content-Length: 0
Server: Jetty(7.5.4.v20111024)
```

### Error Codes

SDP may return upon an exception. For details about the error codes, see 2.6 API Error Response.

### *2.2.3 validateaccountholder*

*Process*

**Figure 2-3** Process of validateaccountholder



*Function*

This operation is used by the Partner to check if an account holder is registered and active in the system.

*Request URI*

The request URI is the destination URI of preapproval messages sent by the App to the SDP. The URI is provided by the SDP in the following format:

**http://IP:Port/mom/mt/validateaccountholder**

In the format, IP and Port indicate the service IP address and SOAP port number of the API provided by the SDP. Contact carriers to obtain the IP address and port number.

*Request Message Body Example*

```
POST /mom/mt/validateaccountholder HTTP/1.1
Content-Type:text/xml
Content-Length:1069
Host:127.0.0.1
Authorization: WSSE realm="SDP", profile="UsernameToken"
X-WSSE: UsernameToken Username="bob", PasswordDigest=" weYI3nXd8LjMNVksCKFV8t3rgHh3Rw==", Nonce="
WScqanjCEAC4mQoBE07sAQ==", Created="2012-07-26T11:31:26Z"
X-RequestHeader: request ServiceId="35000001000012", TransId=" 20090324123045100000123456789" ,
LinkId="A15Y89Z32T99", FA="8613912345678"
Signature:43AD232FD45FF
```

```
Cookie: sessionid=default8fcee064690b45faa9f8f6c7e21c5e5a
Msisdn: 861111111
X-HW-Extension: k1=v1;k2=v2

<ns2:validateaccountholderrequest xmlns:ns2="http://www.ericsson.com/em/emm/sp/backend">
    <accountholderid>ID:20200009999/MSISDN</accountholderid>
</ns2:validateaccountholderrequest>
```

## Message Body Parameters

Table 2-7 describes parameters in a validateaccountholder message body.

Table 2-7 Parameters in a validateaccountholder message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| accountholderid | string | | Mandatory | The identity of the account holder to validate. Parameter cannot be NULL. [Example] ID:46733491234/MSISDN. |

## Response

A success response example:

```
HTTP/1.1 200 OK
Signature:43AD232FD45FF
Content-Length: 0
Server: Jetty(7.5.4.v20111024)

<?xml version="1.0" encoding="UTF-8"?>
<validateaccountholderresponse>
    <valid>TRUE</valid>
</validateaccountholderresponse>
```

Table 2-8 describes parameters in a response message body.

Table 2-8 Parameters in a validateaccountholder response message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| valid | boolean | | Mandatory | TRUE means that requested identity is an account holder that can receive any transaction. FALSE: Means that identity either not found or it is not able to receive any transaction. Parameter cannot be NULL. |

## Error Codes

SDP may return upon an exception. For details about the error codes, see 2.6 API Error Response.

### *2.2.4 getfinancialresourceinformation*

#### Process

**Figure 2-4** Process of getfinancialresourceinformation
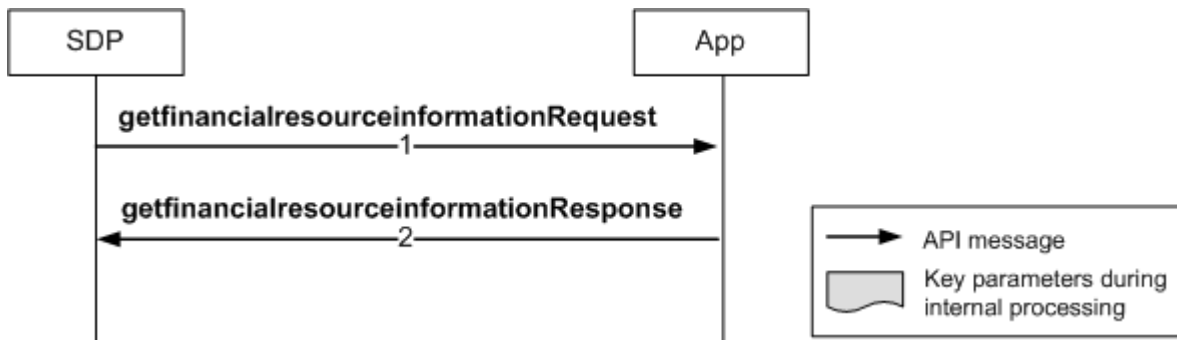


#### Function

This operation is used to fetch generic data for a specific resource for a customer in the Partner system. The information returned can be any data, such as loan information, electricity meter status, TV subscription details. This can be used as a complement to the getbalance operation, since it only returns a balance. The information in the response is just passed through the system to the end-user requesting it.

#### Request URI

The request URI is the destination URI of getfinancialresourceinformation messages sent by the SDP to the App. The URI is defined by the App.

#### Request Message Body Example

```
POST /mom/mo/getreversetransactiondetails HTTP/1.1
Content-Type:text/xml
Content-Length:1069
Host:127.0.0.1
Authorization: WSSE realm="SDP", profile="UsernameToken"
X-WSSE: UsernameToken Username="bob", PasswordDigest=" weYI3nXd8LjMNVksCKFV8t3rgHh3Rw==", Nonce="
WScqanjCEAC4mQoBE07sAQ==", Created="2012-07-26T11:31:26Z"
X-NotifyHeader: notify TransId=" 2009032412304510000000123456789" , LinkId="A15Y89Z32T99"
Signature:43AD232FD45FF
X-HW-Extension: k1=v1;k2=v2

<getfinancialresourceinformationrequest>
  <resource>123</resource>
```

```
    <accountholderid>ID:4673349175/MSISDN</accountholderid>
    <extension>11</extension>
</getfinancialresourceinformationrequest>
```

## *Message Body Parameters*

Table 2-9 describes parameters in a message body.

Table 2-9 Parameters in a message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| resource | string | | Mandatory | The Financial Resource Identifier of the sending account. Parameter cannot be NULL. |
| accountholderid | string | | Mandatory | The MSISDN identity of the account holder that is performing the operation. For example: ID:46733491234/MSISDN |
| extension | extensiontype | - | Optional | Used for sending any additional information to Partner. For details about extensiontype, see Table 2-25. |

## *Response*

A success response example:

```
HTTP/1.1 200 OK
Signature:43AD232FD45FF
Content-Length: 0
Server: Jetty(7.5.4.v20111024)

<?xml version="1.0" encoding="UTF-8"?>
<getfinancialresourceinformationresponse>
  <message>11</message>
  <extension>11</extension>
</getfinancialresourceinformationresponse>
```

Table 2-32 describes parameters in a response message body.

Table 2-10 Parameters in a response message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| message | string | - | Optional | The list of sub transactions for the requested transaction. Contains information describing a single financial instruction<br>For more details about financialinstructiondetails, see Table 2-29. |
| extension | extensiontype | | Optional | Any additional information received from Partner.<br>For details about extensiontype, see Table 2-25. |

## Error Codes

The App returns error codes to the SDP when an exception occurs in response to getfinancialresourceinformation messages. The error codes are defined by partners.
Table 2-11 describes getfinancialresourceinformation error codes that the partners may return upon an exception.

Table 2-11 getfinancialresourceinformation error codes

| Error Code | Description |
|---|---|
| 01 | Successfully processed transaction. |
| 02 | Invalid account details. |
| 03 | Transaction not allowed. |
| 04 | Payment below minimum. |
| 05 | Invalid Mobile Money platform userid/password. |
| 06 | Payment Entry not found. |
| 07 | Missing transaction/message ID. |
| 08 | Missing application version. |
| 100 | General failure. |
| 101 | Field length exceeded. |
| 102 | Subscriber could not be identified. (Invalid subscriberID). |
| 103 | Duplicate transaction id. |

### *2.2.5 verifyfinancialresourceinformation*

*Process*

**Figure 2-5** Process of verifyfinancialresourceinformation
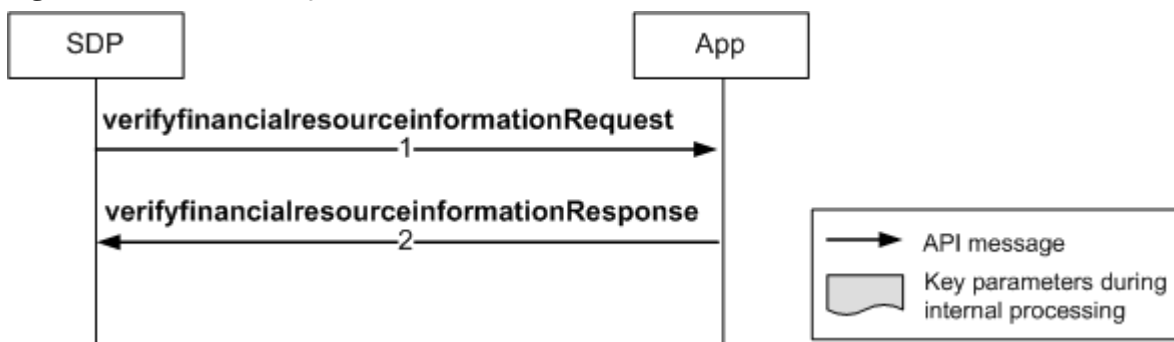


*Function*

This operation is used to ask the Partner if the account in their system may be linked to the account holders eWallet in the Mobile Money Manager. This is primarily relevant for micro finance services, like loans and savings accounts. Once the Partner confirms the link, this external account is added to the account holder in system, and they can start using this account through operations such as **BalanceRequest** and **Withdrawrequest**.

*Request URI*

The request URI is the destination URI of verifyfinancialresourceinformation messages sent by the SDP to the App. The URI is defined by the App.

*Request Message Body Example*

```
POST /mom/mo/getreversetransactiondetails HTTP/1.1
Content-Type:text/xml
Content-Length:1069
Host:127.0.0.1
Authorization: WSSE realm="SDP", profile="UsernameToken"
X-WSSE: UsernameToken Username="bob", PasswordDigest=" weYI3nXd8LjMNVksCKFV8t3rgHh3Rw==", Nonce="
WScqanjCEAC4mQoBE07sAQ==", Created="2012-07-26T11:31:26Z"
X-NotifyHeader: notify TransId=" 20090324123045100000123456789" , LinkId="A15Y89Z32T99"
Signature:43AD232FD45FF
X-HW-Extension: k1=v1;k2=v2

<verifyfinancialresourceInformationrequest>
  <resource>123</resource>
  <accountholderid>PENDING</accountholderid>
  <extension/>
</verifyfinancialresourceInformationrequest>
```

## Message Body Parameters

Table 2-12 describes parameters in a message body.

Table 2-12 Parameters in a message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| resource | string | | Mandatory | The FRI of the account, bill or user in the partner system.<br>Parameter cannot be NULL.<br>For example,<br>FRI:12345ABC@water.company/SP. |
| accountholderid | string | | Mandatory | The MSISDN identity of the account holder.<br>Parameter cannot be NULL.<br>For example:<br>ID:46733491234/MSISDN |
| extension | extensiontype | - | Optional | Used for sending any additional information to Partner.<br>For details about extensiontype, see Table 2-25. |

## Response

A success response example:

```
HTTP/1.1 200 OK
Signature:43AD232FD45FF
Content-Length: 0
Server: Jetty(7.5.4.v20111024)

<?xml version="1.0" encoding="UTF-8"?>
<verifyfinancialresourceinformationresponse>
  <valid>11</valid>
  <extension>11</extension>
</verifyfinancialresourceinformationresponse>
```

Table 2-13 describes parameters in a response message body.

Table 2-13 Parameters in a response message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| valid | boolean | | Mandatory | True if account holder and service resource is valid in Partner system. Parameter cannot be NULL. |
| extension | extensiontype | | Optional | Any additional information received from Partner. For details about extensiontype, see Table 2-25. |

## Error Codes

The App returns error codes to the SDP when an exception occurs in response to verifyfinancialresourceinformation messages. The error codes are defined by partners.
Table 2-14 describes verifyfinancialresourceinformation error codes that the partners may return upon an exception.

Table 2-14 verifyfinancialresourceinformation error codes

| Error Code | Description |
|---|---|
| 01 | Successfully processed transaction. |
| 02 | Invalid account details. |
| 03 | Transaction not allowed. |
| 04 | Payment below minimum. |
| 05 | Invalid Mobile Money platform userid/password. |
| 06 | Payment Entry not found. |
| 07 | Missing transaction/message ID. |
| 08 | Missing application version. |
| 100 | General failure. |
| 101 | Field length exceeded. |
| 102 | Subscriber could not be identified. (Invalid subscriberID). |
| 103 | Duplicate transaction id. |

## 2.3 Approval

### 2.3.1 preapproval

*Process*

**Figure 2-6** Process of preapproval
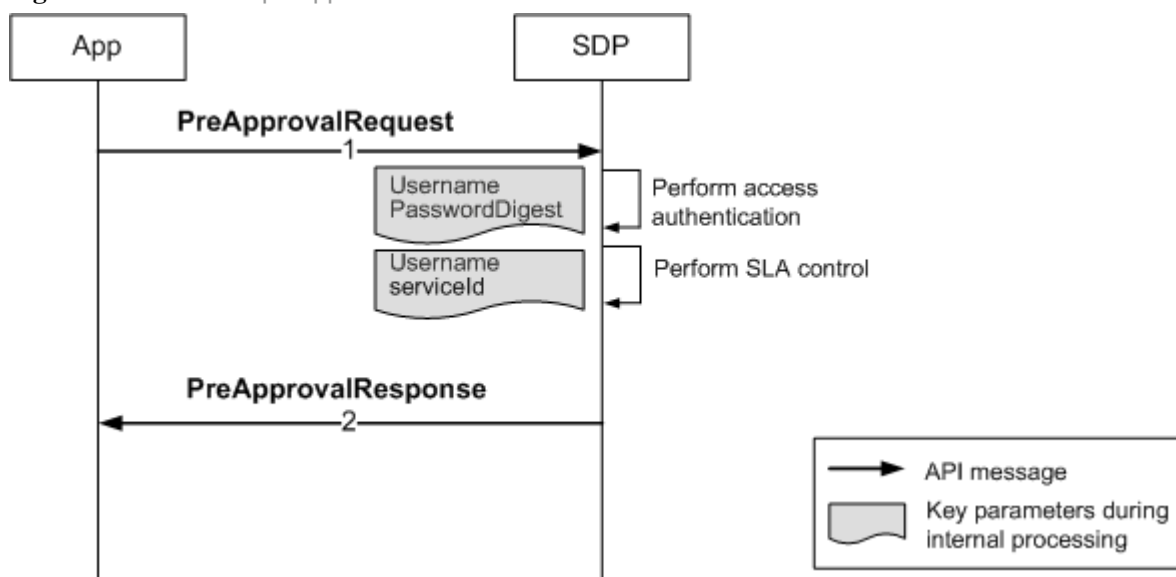


*Function*

a pre-approval enables a Partner to debit an account holder without the user having to approve each operation separately.

*Request URI*

The request URI is the destination URI of preapproval messages sent by the App to the SDP. The URI is provided by the SDP in the following format:

**http://IP:Port/mom/mt/preapproval**

In the format, IP and Port indicate the service IP address and SOAP port number of the API provided by the SDP. Contact carriers to obtain the IP address and port number.

*Request Message Body Example*

```
POST /mom/mt/preapproval HTTP/1.1
Content-Type:text/xml
Content-Length:1069
Host:127.0.0.1
Authorization: WSSE realm="SDP", profile="UsernameToken"
X-WSSE: UsernameToken Username="bob", PasswordDigest=" weYI3nXd8LjMNVksCKFV8t3rgHh3Rw==", Nonce="
WScqanjCEAC4mQoBE07sAQ==", Created="2012-07-26T11:31:26Z"
```

```
X-RequestHeader: request ServiceId="35000001000012", TransId=" 20090324123045100000123456789" ,
LinkId="A15Y89Z32T99", FA="8613912345678"
Signature:43AD232FD45FF
Cookie: sessionid=default8fcee064690b45faa9f8f6c7e21c5e5a
Msisdn: 861111111
X-HW-Extension: k1=v1;k2=v2

<ns2:preapprovalrequest xmlns:ns2="http://www.ericsson.com/em/emm/sp/backend">
  <fromfri>ID:2341305205559/MSISDN</fromfri>
  <tofri>ID:2341305205559/MSISDN</tofri>
  <message>abc</message>
</ns2:preapprovalrequest>
```

## *Message Body Parameters*

Table 2-15 describes parameters in a preapproval message body.

Table 2-15 Parameters in a preapproval message body

| Parameter | Type | Length | Level of Requirement | Description |
|-----------|------|--------|----------------------|-------------|
| fromfri | string | | Mandatory | The Financial Resource Identifier of the sending account. Parameter cannot be NULL. |
| tofri | string | | Mandatory | The Financial Resource Identifier of the receiving account. Parameter cannot be NULL. |
| message | string | | Mandatory | Message to the end user. Parameter cannot be NULL. |

## *Response*

A success response example:

```
HTTP/1.1 200 OK
Signature:43AD232FD45FF
Content-Length: 0
Server: Jetty(7.5.4.v20111024)

<?xml version="1.0" encoding="UTF-8"?>
<preapprovalresponse>
  <preapprovalid>123</preapprovalid>
  <status>APPROVED</status>
</preapprovalresponse>
```
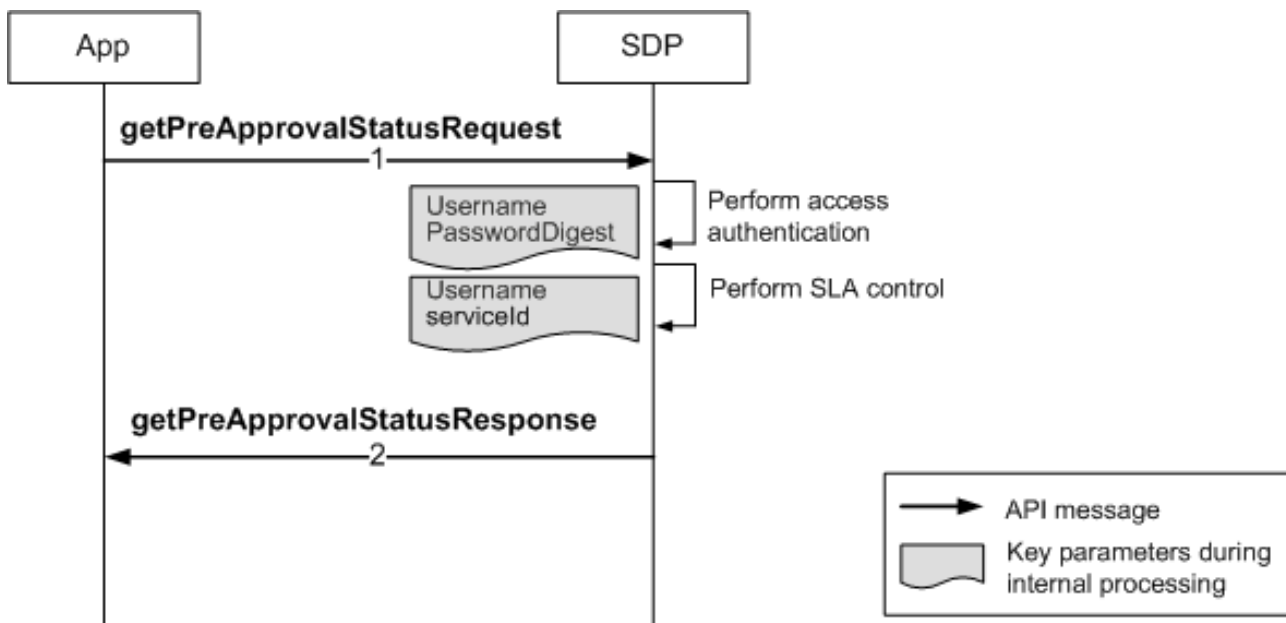
Table 2-16 describes parameters in a preapproval response message body.

Table 2-16 Parameters in a preapproval response message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| preapprovalid | long | | Mandatory | The identity of the preapproval.<br>Parameter cannot be NULL. |
| status | preapproval status | - | Mandatory | The status of the preapproval.<br>Parameter cannot be NULL.<br>[Enumeration]<br>• PENDING<br>• APPROVED<br>• REJECTED<br>• EXPIRED |

*Error Codes*

SDP may return upon an exception. For details about the error codes, see 2.6 API Error Response.

### *2.3.2 getPreApprovalStatus*

*Process*

**Figure 2-7** Process of getPreApprovalStatus

## Function

It is used by the Partner to fetch the status of a previously sent PreApprovalRequest.

## Request URI

The request URI is the destination URI of preapproval messages sent by the App to the SDP. The URI is provided by the SDP in the following format:
**http://IP:Port/mom/mt/getPreApprovalStatus**
In the format, IP and Port indicate the service IP address and SOAP port number of the API provided by the SDP. Contact carriers to obtain the IP address and port number.

## Request Message Body Example

```
POST /mom/mt/getPreApprovalStatus HTTP/1.1
Content-Type:text/xml
Content-Length:1069
Host:127.0.0.1
Authorization: WSSE realm="SDP", profile="UsernameToken"
X-WSSE: UsernameToken Username="bob", PasswordDigest=" weYI3nXd8LjMNVksCKFV8t3rgHh3Rw==", Nonce="
WScqanjCEAC4mQoBE07sAQ==", Created="2012-07-26T11:31:26Z"
X-RequestHeader: request ServiceId="35000001000012", TransId=" 20090324123045100000123456789" ,
LinkId="A15Y89Z32T99", FA="8613912345678"
Signature:43AD232FD45FF
Cookie: sessionid=default8fcee064690b45faa9f8f6c7e21c5e5a
Msisdn: 861111111
X-HW-Extension: k1=v1;k2=v2

<ns2:getpreapprovalstatusrequest xmlns:ns2="http://www.ericsson.com/em/emm/sp/backend">
   <preapprovalid>12.23</preapprovalid>
   <fromfri>REPORT</fromfri>
   <tofri>SUMMARY</tofri>
</ns2:getpreapprovalstatusrequest>
```

## Message Body Parameters

Table 2-17 describes parameters in a preapproval message body.

Table 2-17 Parameters in a preapproval message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| preapprovalid | long | | Mandatory | ID of the pre-approval request. Parameter cannot be NULL. |

| Parameter | Type | Length | Level of Requirement | Description |
|-----------|------|--------|---------------------|-------------|
| fromfri | string | | Mandatory | The Financial Resource Identifier of the sending account.<br>Parameter cannot be NULL. Validated with IsFRI. |
| tofri | string | | Mandatory | The Financial Resource Identifier of the receiving account. Parameter cannot be NULL.<br>Validated with IsFRI. |

## Response

A success response example:

```
HTTP/1.1 200 OK
Signature:43AD232FD45FF
Content-Length: 0
Server: Jetty(7.5.4.v20111024)

<?xml version="1.0" encoding="UTF-8"?>
<getpreapprovalstatusresponse>
   <status>1</status>
</getpreapprovalstatusresponse>
```

Table 2-18 describes parameters in a response message body.

Table 2-18 Parameters in a response message body

| Parameter | Type | Length | Level of Requirement | Description |
|-----------|------|--------|---------------------|-------------|
| status | preapproval status | - | Mandatory | Current status of the preapproval.<br>Parameter cannot be NULL.<br>[Enumeration]<br>• PENDING<br>• APPROVED<br>• REJECTED<br>• EXPIRED |

## Error Codes

SDP may return upon an exception. For details about the error codes, see 2.6 API Error Response.

### *2.3.3 preapprovalcompleted*

*Process*

**Figure 2-8** Process of preapprovalcompleted
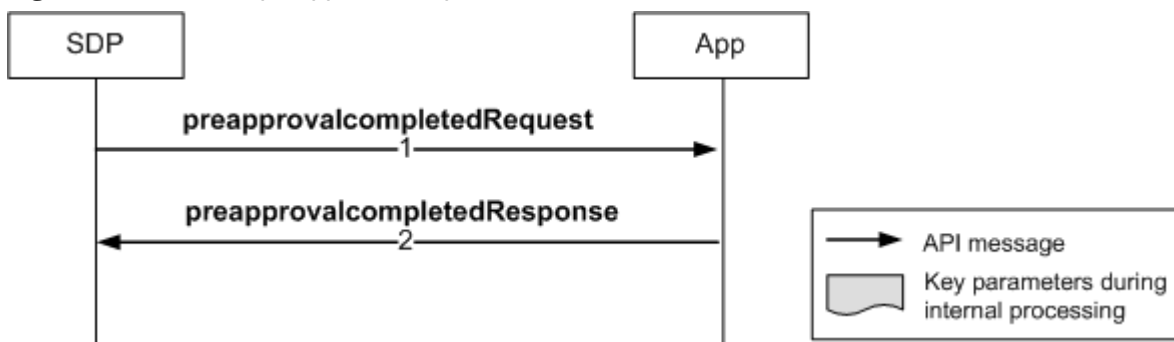


*Function*

The Mobile Money Manager will send this request to the Service Provider when the user has confirmed the approval, or if the pre-approval has expired.

*Request URI*

The request URI is the destination URI of preapprovalcompleted messages sent by the SDP to the App. The URI is defined by the App.

*Request Message Body Example*

```
POST /mom/mo/getreversetransactiondetails HTTP/1.1
Content-Type:text/xml
Content-Length:1069
Host:127.0.0.1
Authorization: WSSE realm="SDP", profile="UsernameToken"
X-WSSE: UsernameToken Username="bob", PasswordDigest=" weYI3nXd8LjMNVksCKFV8t3rgHh3Rw==", Nonce="
WScqanjCEAC4mQoBE07sAQ==", Created="2012-07-26T11:31:26Z"
X-NotifyHeader: notify TransId=" 20090324123045100000123456789" , LinkId="A15Y89Z32T99"
Signature:43AD232FD45FF
X-HW-Extension: k1=v1;k2=v2

<preapprovalcompletedrequest>
  <preapprovalid>1.2</preapprovalid>
  <status>PENDING</status>
  <receiverinfo>
    <fri>123</fri>
    <name>12</name>
    <msisdn>12</msisdn>
    <emailadresses>
      <email>12</email>
```

```
        </emailadresses>
      </receiverinfo>
  </preapprovalcompletedrequest>
```

## Message Body Parameters

Table 2-19 describes parameters in a message body.

Table 2-19 Parameters in a message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| preapprovalid | long | | Mandatory | ID of the preapproval.<br>Parameter cannot be NULL. |
| status | preapprovalstatus | | Mandatory | Current status of the preapproval.<br>Parameter cannot be NULL.<br>[Enumeration]<br>• PENDING<br>• APPROVED<br>• REJECTED<br>• EXPIRED |
| receiverinfo | receiverinfo | - | Mandatory | Information about the receiving party.<br>Parameter cannot be NULL.<br>For more details about receiverinfo, see Table 2-20. |

Table 2-20 describes parameters in receiverinfo.

Table 2-20 Parameters in receiverinfo

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| fri | string | | Mandatory | FRI for receivers account to which the amount was credited. |
| name | string | | Optional | Name of receiving party. |
| msisdn | string | - | Optional | MSISDN of receiving party. |
| email | list<emailaddress> | | Optional | Email addresses of receiving party.<br>For more details about list<emailaddress>, see Table 2-21. |
| language | string | | Optional | Preferred language code. |

Table 2-21 describes parameters in list<emailaddress>.

Table 2-21 Parameters in list<emailaddress>

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| address | string | - | Optional | Validated with IsEmail. |

## Response

A success response example:

```
HTTP/1.1 200 OK
Signature:43AD232FD45FF
Content-Length: 0
Server: Jetty(7.5.4.v20111024)

<?xml version="1.0" encoding="UTF-8"?>
<preapprovalresponse>
   <preapprovalid>11</preapprovalid>
   <status>1</status>
</preapprovalresponse>
```

Table 2-16 describes parameters in a response message body.

## Error Codes

The App returns error codes to the SDP when an exception occurs in response to preapprovalcompleted messages. The error codes are defined by partners.
Table 2-22 describes preapprovalcompleted error codes that the partners may return upon an exception.

Table 2-22 Preapprovalcompleted error codes

| Error Code | Description |
|---|---|
| 01 | Successfully processed transaction. |
| 02 | Invalid account details. |
| 03 | Transaction not allowed. |
| 04 | Payment below minimum. |
| 05 | Invalid Mobile Money platform userid/password. |
| 06 | Payment Entry not found. |
| 07 | Missing transaction/message ID. |
| 08 | Missing application version. |

| Error Code | Description |
|---|---|
| 100 | General failure. |
| 101 | Field length exceeded. |
| 102 | Subscriber could not be identified. (Invalid subscriberID). |
| 103 | Duplicate transaction id. |

## *2.4 Transaction Details*

### *2.4.1 Paymentcompleted*

*Process*

Figure 2-9 shows the process of notifying about the completion of a previously initiated payment request.

**Figure 2-9** Process of notifying about the completion of a previously initiated payment request
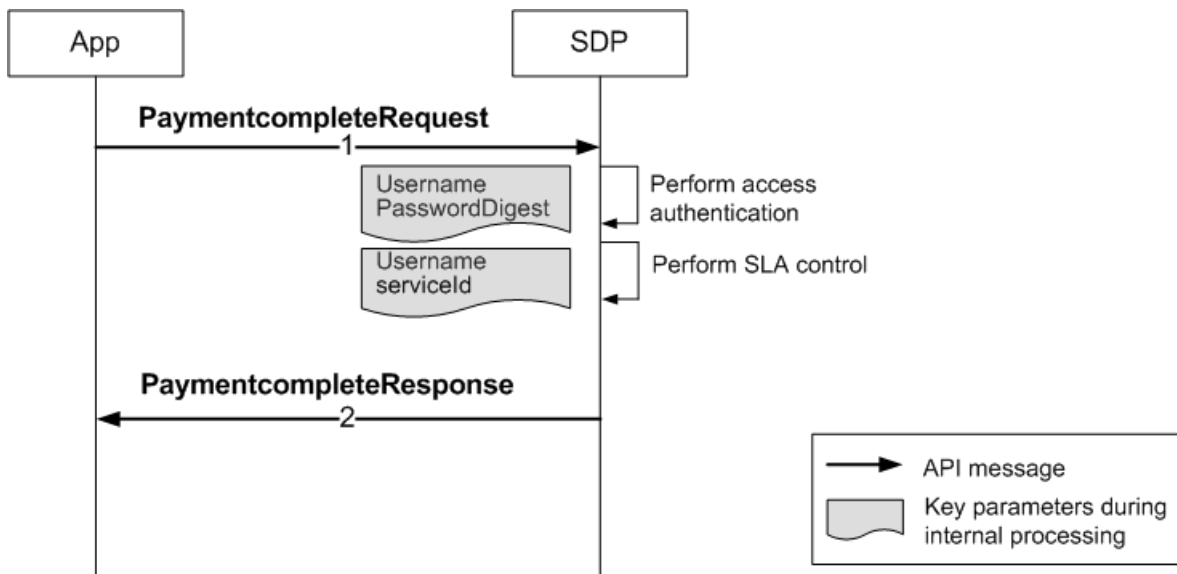


*Function*

The APP (functioning as the client) invokes the Paymentcompleted API to notify about the completion of a previously initiated payment request to the SDP (functioning as the server).
Partners must code the App based on the API field requirements so that the App can send correct requests to the SDP. The SDP must send a response within 180 seconds by default.

*Request URI*

The request URI is the destination URI of Paymentcompleted messages sent by the App to the SDP. The URI is provided by the SDP in the following format:

**2 HTTP APIs**

**http://IP:Port/mom/mt/paymentcompleted**
In the format, IP and Port indicate the service IP address and SOAP port number of the API provided by the SDP. Contact carriers to obtain the IP address and port number.

*Request*

The SDP functions as the client and sends a Paymentcompleted message to the App to query account balance.

*Message Body Example*

```
POST /mom/mt/paymentcompleted HTTP/1.1
Content-Type:text/xml
Content-Length:1069
Host:127.0.0.1
Authorization: WSSE realm="SDP", profile="UsernameToken"
X-WSSE: UsernameToken Username="bob", PasswordDigest=" weYI3nXd8LjMNVksCKFV8t3rgHh3Rw==", Nonce="
WScqanjCEAC4mQoBE07sAQ==", Created="2012-07-26T11:31:26Z"
X-RequestHeader: request ServiceId="35000001000012", TransId=" 20090324123045100000123456789" ,
LinkId="A15Y89Z32T99", FA="8613912345678"
Signature:43AD232FD45FF
Cookie: sessionid=default8fcee064690b45faa9f8f6c7e21c5e5a
Msisdn: 861111111
X-HW-Extension: k1=v1;k2=v2

<ns2:paymentcompletedrequest xmlns:ns2="http://www.ericsson.com/em/emm/sp/backend">
   <transactionid>12.23</transactionid>
   <providertransactionid>abc</providertransactionid>
   <newbalance>
     <amount>abc</amount>
     <currency>abc</currency>
   </newbalance>
   <paymenttoken>abc</paymenttoken>
   <message>abc</message>
   <status>PENDING</status>
   <extension>abc</extension>
</ns2:paymentcompletedrequest>
```

*Message Body Parameters*

Table 2-23 describes parameters in a Paymentcompleted message body.

Table 2-23 Parameters in a Paymentcompleted message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| transactionid | long | | Mandatory | System internal transaction id. Parameter cannot be NULL. |

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| providertransactionid | string | | Mandatory | Service provider transaction id. |
| newbalance | moneydetailstype | - | Optional | Balance of the account at the Partner. For details about moneydetailstype, see Table 2-24. |
| paymenttoken | string | | Optional | Partner payment token. |
| message | string | | Optional | A message to the account holder that made the payment. |
| status | paymentstatus | - | Mandatory | The status of the payment. Parameter cannot be NULL. [Enumeration] <ul><li>PENDING</li><li>COMPLETED</li><li>FAILED</li></ul> |
| extension | extensiontype | - | Optional | Used for sending any additional information to front end access module. For details about extensiontype, see Table 2-25. |

Table 2-24 describes the parameter structure of the moneydetailstype.

Table 2-24 Parameter structure of moneydetailstype

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| amount | decimal | | Mandatory | The monetary amount. Parameter cannot be NULL. |
| currency | string | | Mandatory | The currency, as an ISO 4217 formatted string. Parameter cannot be NULL. |

Table 2-25 describes the extensiontype.

Table 2-25 Parameter extensiontype

| name | value | | | |
|------|-------|--|--|--|
| **Parameter** | **Type** | **Length** | **Level of Requirement** | **Description** |
| any | list<object> | - | Optional | Use to send any other information. |

## *Response*

An empty response indicates success.
A success response example:

```
HTTP/1.1 200 OK
Signature:43AD232FD45FF
Content-Length: 0
Server: Jetty(7.5.4.v20111024)
```

## *Error Codes*

SDP may return upon an exception. For details about the error codes, see 2.6 API Error Response.

## *2.4.2 gettransactionstatus*

### *Process*

**Figure 2-10** Process of gettransactionstatus
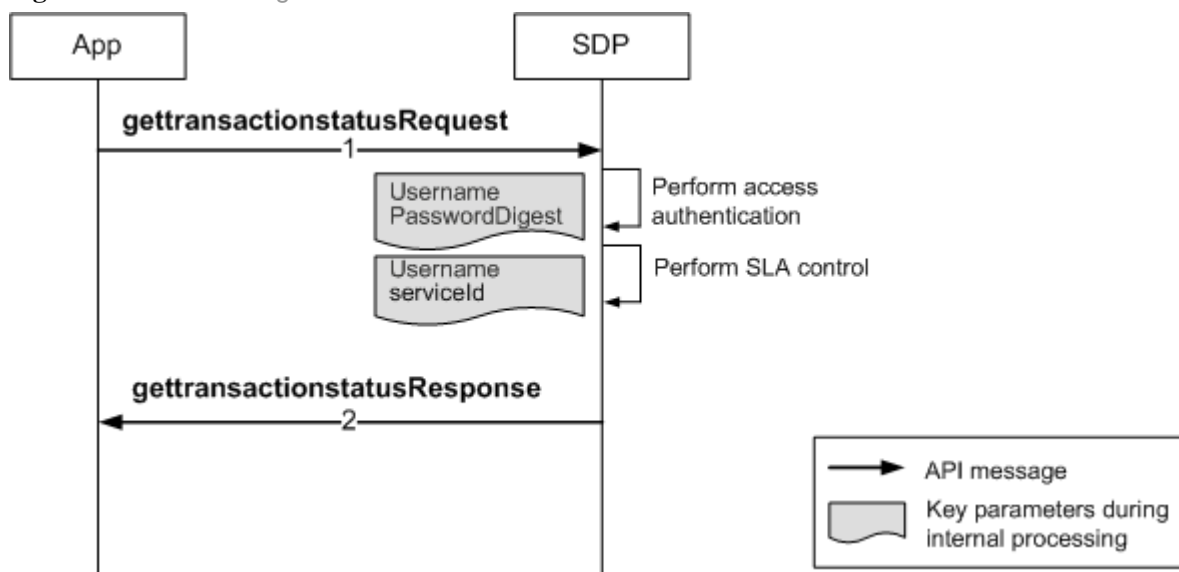


## *Function*

This section describes the operation used to check debit status.

## Request URI

The request URI is the destination URI of preapproval messages sent by the App to the SDP. The URI is provided by the SDP in the following format:

**http://IP:Port/mom/mt/gettransactionstatus**

In the format, IP and Port indicate the service IP address and SOAP port number of the API provided by the SDP. Contact carriers to obtain the IP address and port number.

## Request Message Body Example

```
POST /mom/mt/gettransactionstatus HTTP/1.1
Content-Type:text/xml
Content-Length:1069
Host:127.0.0.1
Authorization: WSSE realm="SDP", profile="UsernameToken"
X-WSSE: UsernameToken Username="bob", PasswordDigest=" weYI3nXd8LjMNVksCKFV8t3rgHh3Rw==", Nonce="
WScqanjCEAC4mQoBE07sAQ==", Created="2012-07-26T11:31:26Z"
X-RequestHeader: request ServiceId="35000001000012", TransId=" 20090324123045100000123456789" ,
LinkId="A15Y89Z32T99", FA="8613912345678"
Signature:43AD232FD45FF
Cookie: sessionid=default8fcee064690b45faa9f8f6c7e21c5e5a
Msisdn: 861111111
X-HW-Extension: k1=v1;k2=v2

<ns2:gettransactionstatusrequest xmlns:ns2="http://www.ericsson.com/em/emm/sp/backend">
   <referenceid>12.23</referenceid>
   <identity>REPORT</identity>
</ns2:gettransactionstatusrequest>
```

## Message Body Parameters

Table 2-26 describes parameters in a gettransactionstatus message body.

Table 2-26 Parameters in a gettransactionstatus message body

| Parameter | Type | Length | Level of Requirement | Description |
|-----------|------|--------|----------------------|-------------|
| referenceid | string | | Mandatory | Reference Id which has been entered by user, while initiating the transaction. Parameter cannot be NULL. |
| identity | string | | Optional | A valid identity associated with the account holder that performed the requested transaction. |

## Response

A success response example:

```
HTTP/1.1 200 OK
Signature:43AD232FD45FF
Content-Length: 0
Server: Jetty(7.5.4.v20111024)

<?xml version="1.0" encoding="UTF-8"?>
<gettransactionstatusresponse>
    <transactionid>123</transactionid>
    <status>SUCCESSFUL</status>
</gettransactionstatusresponse>
```

Table 2-27 describes parameters in a gettransactionstatus response message body.

Table 2-27 Parameters in a gettransactionstatus response message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| transactionid | long | | Mandatory | Transaction ID.<br>Parameter cannot be NULL. |
| status | Financialtransaction status | - | Mandatory | Payment Status. .<br>Parameter cannot be NULL.<br>[Enumeration]<br>• SUCCESSFUL<br>• PENDING<br>• FAILED |

## Error Codes

SDP may return upon an exception. For details about the error codes, see 2.6 API Error Response.
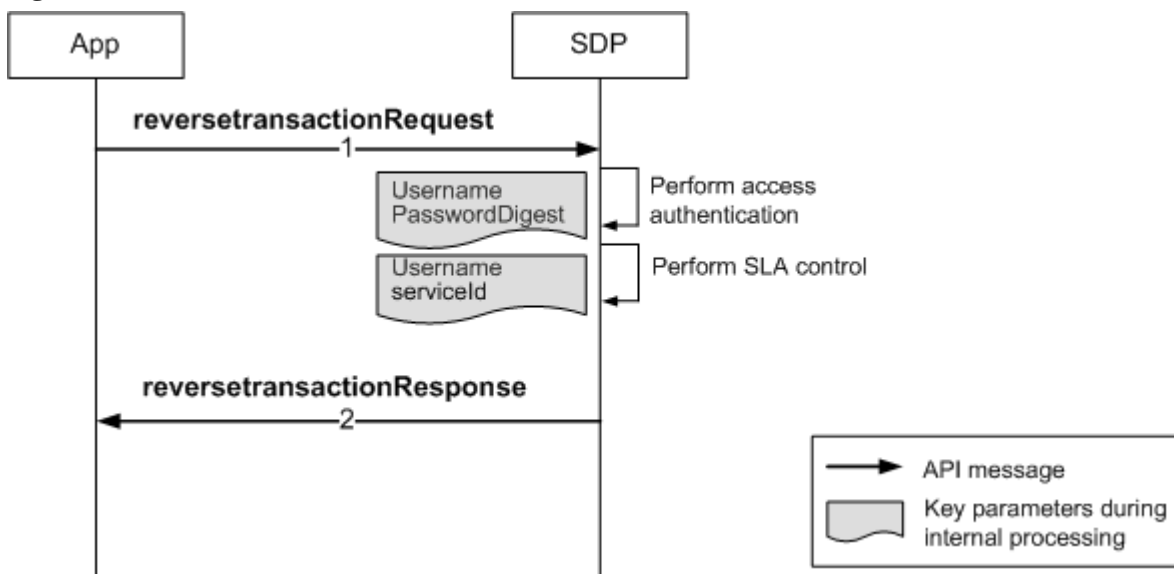
### 2.4.3 reversetransaction

*Process*

**Figure 2-11** Process of reversetransaction



*Function*

Reverses a transaction and all of its potential sub-transactions.

*Request URI*

The request URI is the destination URI of preapproval messages sent by the App to the SDP. The URI is provided by the SDP in the following format:
**http://IP:Port/mom/mt/reversetransaction**
In the format, IP and Port indicate the service IP address and SOAP port number of the API provided by the SDP. Contact carriers to obtain the IP address and port number.

*Request Message Body Example*

```
POST /mom/mt/reversetransaction HTTP/1.1
Content-Type:text/xml
Content-Length:1069
Host:127.0.0.1
Authorization: WSSE realm="SDP", profile="UsernameToken"
X-WSSE: UsernameToken Username="bob", PasswordDigest=" weYI3nXd8LjMNVksCKFV8t3rgHh3Rw==", Nonce="
WScqanjCEAC4mQoBE07sAQ==", Created="2012-07-26T11:31:26Z"
X-RequestHeader: request ServiceId="35000001000012", TransId=" 20090324123045100000123456789" ,
LinkId="A15Y89Z32T99", FA="8613912345678"
Signature:43AD232FD45FF
```

```
Cookie: sessionid=default8fcee064690b45faa9f8f6c7e21c5e5a
Msisdn: 861111111
X-HW-Extension: k1=v1;k2=v2

<reversetransactionrequest>
  <financialtransactionid>1025684</financialtransactionid>
  <comment>this is a comment</comment>
  <financialinstructiondetails>
    <date>Tue Aug 13 08:13:12 UTC 2013</date>
    <fromfri>4673349175</fromfri>
    <tofri>4673349176</tofri>
    <financialinstructiontype>WITHDRAWAL</financialinstructiontype>
    <transfertype>TRANSFER</transfertype>
    <amount>10.0253654</amount>
    <frommessage>this is a frommessage</frommessage>
    <tomessage>hello</tomessage>
    <externaltransactionid>00124545</externaltransactionid>
  </financialinstructiondetails>
</reversetransactionrequest>
```

## *Message Body Parameters*

Table 2-28describes parameters in a message body.

Table 2-28 Parameters in a message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| financialtransactionid | long | | Mandatory | The financial transaction id of the original transaction to reverse. Parameter cannot be NULL. |
| comment | string | | Mandatory | A comment describing the reason for the reversal. Validated with NotEmpty. Validated with Length parameter(max=512). Validated with IsRestrictedString. |
| financialinstructiondetails | list<financialinstructiondetails> | - | Mandatory | A list of instructions describing how to perform the reversal. Contains information describing a single financial instruction. Validated with NotEmpty. For more details about financialinstructiondetails, see Table 2-29. |

Table 2-29 describes parameters in financialinstructiondetails.

Table 2-29 Parameters in financialinstructiondetails

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| date | date | | Mandatory | The time and date of the sub transaction to reverse. |
| fromfri | string | | Mandatory | The FRI to transfer from. Validated with IsFRI. Parameter cannot be NULL. |
| tofri | string | - | Mandatory | The FRI to transfer to. Validated with IsFRI. Parameter cannot be NULL. |
| financialinstruction type | financialinstru ctiontype | - | Mandatory | The type of financial instruction to perform. Parameter cannot be NULL. For more details about the financialinstructiontype, see Table 2-30. |
| transfertype | transfertype | - | Mandatory | The type of transfer to perform. Parameter cannot be NULL. |
| amount | decimal | | Mandatory | The amount to send. Parameter cannot be NULL. Validated with IsAmount. |
| frommessage | string | | Optional | A message for the sender. Validated with IsRestrictedString. |
| tomessage | string | | Optional | A message for the receiver. Validated with IsRestrictedString. |
| externaltransactio nid | string | | Optional | External id. Validated with Length parameter(max=256). Validated with IsExternalReferenceString. |

Table 2-30 shows the financial transaction type.

Table 2-30 Enumeration

| Parameter | Description |
|---|---|
| DEPOSIT | - |
| WITHDRAWAL | - |
| TRANSFER | - |
| CASH_IN | - |
| CASH_OUT | - |

**2 HTTP APIs**

| Parameter | Description |
|---|---|
| TRANSFER_TO_VOUCHER | - |
| TRANSFER_FROM_VOUCHER | - |
| PAYMENT_SEND | - |
| PAYMENT_RECEIVE | - |
| COMMISSIONING | - |
| FEE | - |
| PERIODIC_FEE | - |
| CANCEL_VOUCHER | - |
| VIEW_ACTIVE_TOKEN | - |
| VIEW_TOKEN | - |
| EXPIRE_VOUCHER | - |
| BALANCE_ENQUIRY | - |
| TRANSACTION_HISTORY_ENQUIRY | - |
| REMITTANCE | - |
| TRANSFER_TO_INVITATION | - |
| TRANSFER_FROM_INVITATION | - |
| CANCEL_INVITATION | - |
| CANCEL_INVITATION | - |
| CANCEL_INVITATION | - |
| TRANSFER_FROM_VOUCHER_ATM | - |
| PICKUP | - |
| REVERSAL | - |
| REVERSAL_FEE | - |
| REVERSAL_LOY | - |
| REVERSAL_COMMISSIONING | - |
| ADJUSTMENT | - |
| ADJUSTMENT_FEE | - |

**2 HTTP APIs**

| Parameter | Description |
|---|---|
| ADJUSTMENT_LOY | - |
| ADJUSTMENT_COMMISSIONING | - |
| BATCH_TRANSFER | - |
| RESOURCE_INFORMATION_ENQUIRY | - |
| DEBIT | - |
| RESOLVE_DEPOSIT | - |
| SUSPEND_DEPOSIT | - |
| PAYMENT | - |
| CUSTODY_ACCOUNTS_TRANSFER | - |
| EXTERNAL_TRANSFER | - |
| REFUND | - |
| INVITE_USER_REWARD | - |
| ACCEPT_INVITE_REWARD | - |

*Response*

An empty response indicates success.
A success response example:

HTTP/1.1 200 OK
Signature:43AD232FD45FF
Content-Length: 0
Server: Jetty(7.5.4.v20111024)

<?xml version="1.0" encoding="UTF-8"?>
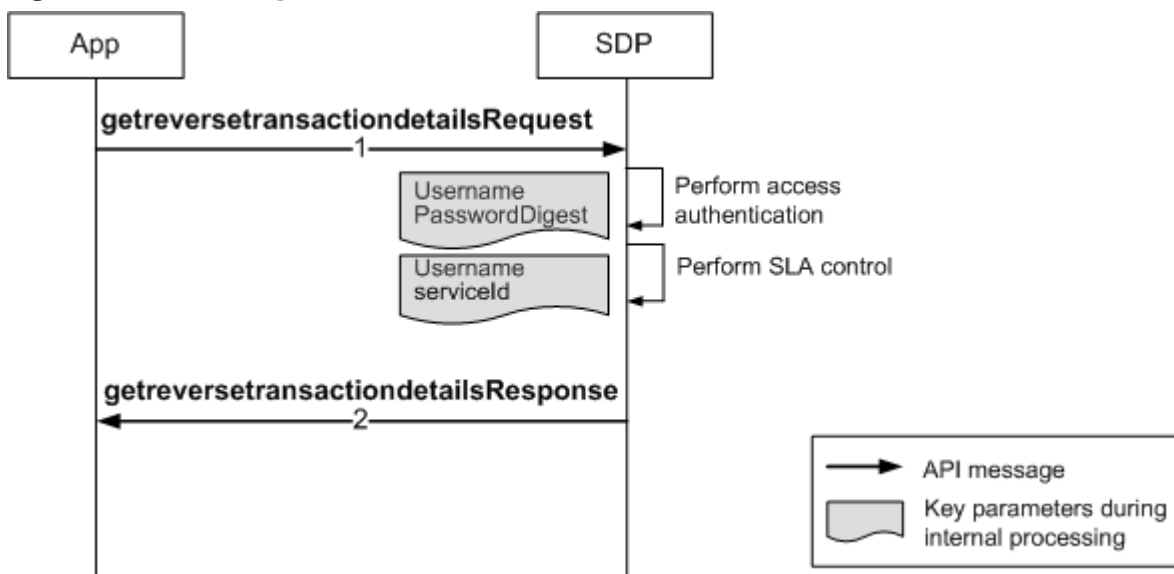<reversetransactionresponse type="text"></reversetransactionresponse>

*Error Codes*

SDP may return upon an exception. For details about the error codes, see 2.6 API Error Response.

### *2.4.4 getreversetransactiondetails*

*Process*

**Figure 2-12** Process of getreversetransactiondetails



*Function*

Get status of previously initiated operation.

*Request URI*

The request URI is the destination URI of preapproval messages sent by the App to the SDP. The URI is provided by the SDP in the following format:
**http://IP:Port/mom/mt/getreversetransactiondetails**
In the format, IP and Port indicate the service IP address and SOAP port number of the API provided by the SDP. Contact carriers to obtain the IP address and port number.

*Request Message Body Example*

```
POST /mom/mt/getreversetransactiondetails HTTP/1.1
Content-Type:text/xml
Content-Length:1069
Host:127.0.0.1
Authorization: WSSE realm="SDP", profile="UsernameToken"
X-WSSE: UsernameToken Username="bob", PasswordDigest=" weYI3nXd8LjMNVksCKFV8t3rgHh3Rw==", Nonce="
WScqanjCEAC4mQoBE07sAQ==", Created="2012-07-26T11:31:26Z"
X-RequestHeader: request ServiceId="35000001000012", TransId=" 20090324123045100000123456789" ,
LinkId="A15Y89Z32T99", FA="8613912345678"
Signature:43AD232FD45FF
```

```
Cookie: sessionid=default8fcee064690b45faa9f8f6c7e21c5e5a
Msisdn: 861111111
X-HW-Extension: k1=v1;k2=v2

<ns2:getreversetransactiondetailsrequest xmlns:ns2="http://www.ericsson.com/em/emm/sp/backend">
   <financialtransactionid>12.23</financialtransactionid>
</ns2:getreversetransactiondetailsrequest>
```

## *Message Body Parameters*

Table 2-31 describes parameters in a message body.

Table 2-31 Parameters in a message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| financialtransactio nid | long | | Mandatory | The Financial Resource Identifier of the sending account. Parameter cannot be NULL. |

## *Response*

A success response example:

```
HTTP/1.1 200 OK
Signature:43AD232FD45FF
Content-Length: 0
Server: Jetty(7.5.4.v20111024)

<?xml version="1.0" encoding="UTF-8"?>
<getreversetransactiondetailsresponse>
  <subtransactions>
   <subtransaction>
     <date>2013</date>
     <fromfri>11</fromfri>
     <tofri>11</tofri>
     <financialinstructiontype>11</financialinstructiontype>
     <transfertype>11</transfertype>
     <amount>11</amount>
     <frommessage>11</frommessage>
     <tomessage>11</tomessage>
     <externaltransactionid>11</externaltransactionid>
   </subtransaction>
  </subtransactions>
</getreversetransactiondetailsresponse>
```

Table 2-32 describes parameters in a response message body.

Table 2-32 Parameters in a response message body

| Parameter | Type | Length | Level of Requirement | Description |
|-----------|------|--------|----------------------|-------------|
| subtransactions | list<financial instructiond etails> | - | Optional | The list of sub transactions for the requested transaction. Contains information describing a single financial instruction<br><br>For more details about financialinstructiondetails, see Table 2-29. |

## Error Codes

SDP may return upon an exception. For details about the error codes, see 2.6 API Error Response.

## 2.4.5 withdraw

### Process

**Figure 2-13** Process of withdraw
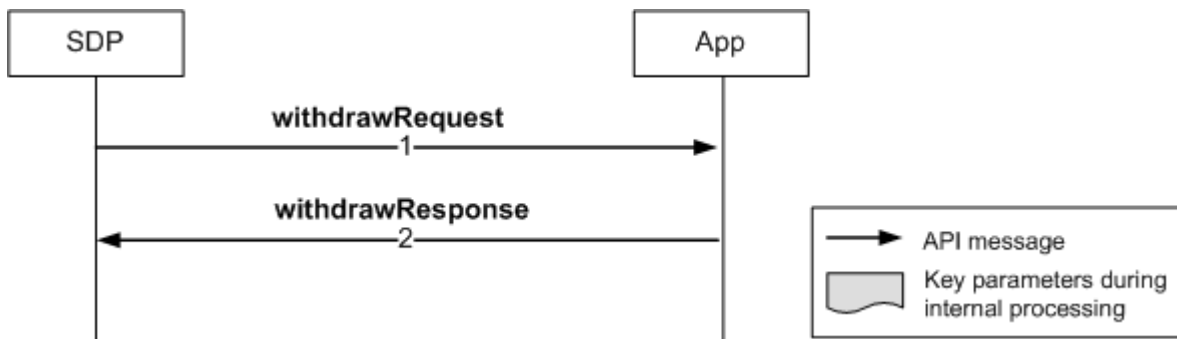


## Function

The operation transfers money from the account holders account in the Partner system to an eWallet in the Mobile Money Manager.

## Request URI

The request URI is the destination URI of withdraw messages sent by the SDP to the App. The URI is defined by the App.

## Request Message Body Example

```
POST /mom/mo/getreversetransactiondetails HTTP/1.1
Content-Type:text/xml
Content-Length:1069
Host:127.0.0.1
```

```
Authorization: WSSE realm="SDP", profile="UsernameToken"
X-WSSE: UsernameToken Username="bob", PasswordDigest=" weYI3nXd8LjMNVksCKFV8t3rgHh3Rw==", Nonce="
WScqanjCEAC4mQoBE07sAQ==", Created="2012-07-26T11:31:26Z"
X-NotifyHeader: notify TransId=" 20090324123045100000123456789" , LinkId="A15Y89Z32T99"
Signature:43AD232FD45FF
X-HW-Extension: k1=v1;k2=v2

<withdrawrequest>
    <resource>12345ABC@water.company/SP</resource>
    <accountholderid>46733491234/MSISDN</accountholderid>
    <amount>
        <amount>12</amount>
        <currency>12</currency>
    </amount>
    <transactionid>1.2</transactionid>
    <message>PENDING</message>
    <extension/>
</withdrawrequest>
```

## Message Body Parameters

Table 2-33 describes parameters in a message body.

Table 2-33 Parameters in a message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| resource | string | | Mandatory | The FRI of the account, bill or user in the partner system. For example, FRI:12345ABC@water.company/SP |
| accountholderid | string | | Mandatory | The MSISDN identity of the account holder that is performing the operation. For example: ID:46733491234/MSISDN |
| amount | moneydetailstype | | Mandatory | Amount to be withdrawn. Parameter cannot be NULL. For details about moneydetailstype, see Table 2-24. |
| transactionid | long | | Mandatory | System internal transaction id. Parameter cannot be NULL. |
| message | string | | Optional | A descriptive note for Partner. |

| Parameter | Type | Length | Level of Requirement | Description |
|-----------|------|--------|----------------------|-------------|
| extension | extensiontype | - | Optional | Used for sending any additional information to Partner.<br><br>For details about extensiontype, see Table 2-25. |

## Response

A success response example:

```
HTTP/1.1 200 OK
Signature:43AD232FD45FF
Content-Length: 0
Server: Jetty(7.5.4.v20111024)

<?xml version="1.0" encoding="UTF-8"?>
<withdrawresponse>
   <withdrawid>11</withdrawid>
   <status>11</status>
</withdrawresponse>
```

Table 2-34 describes parameters in a response message body.

Table 2-34 Parameters in a response message body

| Parameter | Type | Length | Level of Requirement | Description |
|-----------|------|--------|----------------------|-------------|
| message | string | - | Optional | The list of sub transactions for the requested transaction. Contains information describing a single financial instruction<br><br>For more details about financialinstructiondetails, see Table 2-29. |
| extension | extensiontype | | Optional | Any additional information received from Partner.<br><br>For details about extensiontype, see Table 2-25. |

## Error Codes

The App returns error codes to the SDP when an exception occurs in response to getfinancialresourceinformation messages. The error codes are defined by partners.
Table 2-11 describes getfinancialresourceinformation error codes that the partners may return upon an exception.

Table 2-35 getfinancialresourceinformation error codes

| Error Code | Description |
|---|---|
| 01 | Successfully processed transaction. |
| 02 | Invalid account details. |
| 03 | Transaction not allowed. |
| 04 | Payment below minimum. |
| 05 | Invalid Mobile Money platform userid/password. |
| 06 | Payment Entry not found. |
| 07 | Missing transaction/message ID. |
| 08 | Missing application version. |
| 100 | General failure. |
| 101 | Field length exceeded. |
| 102 | Subscriber could not be identified. (Invalid subscriberID). |
| 103 | Duplicate transaction id. |

## *2.5 Batch Processing*

### *2.5.1 startbatchtransfer*

*Process*

**Figure 2-14** Process of startbatchtransfer
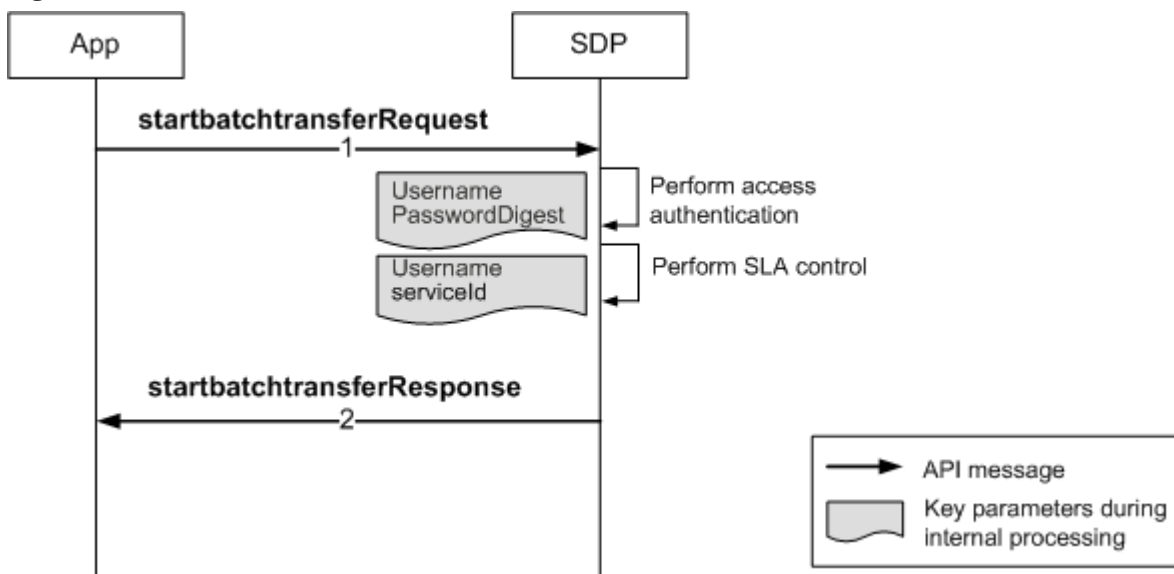


*Function*

Start a batch by sending a file containing transaction detail in a multipart HTTP request.

*Request URI*

The request URI is the destination URI of preapproval messages sent by the App to the SDP. The URI is provided by the SDP in the following format:
**http://IP:Port/mom/mt/startbatchtransfer**
In the format, IP and Port indicate the service IP address and SOAP port number of the API provided by the SDP. Contact carriers to obtain the IP address and port number.

*Request Message Body Example*

```
POST /mom/mt/startbatchtransfer HTTP/1.1
Content-Type:text/xml
Content-Length:1069
Host:127.0.0.1
Authorization: WSSE realm="SDP", profile="UsernameToken"
X-WSSE: UsernameToken Username="bob", PasswordDigest=" weYI3nXd8LjMNVksCKFV8t3rgHh3Rw==", Nonce="
WScqanjCEAC4mQoBE07sAQ==", Created="2012-07-26T11:31:26Z"
X-RequestHeader: request ServiceId="35000001000012", TransId=" 20090324123045100000123456789" ,
LinkId="A15Y89Z32T99", FA="8613912345678"
Signature:43AD232FD45FF
```

```
Cookie: sessionid=default8fcee064690b45faa9f8f6c7e21c5e5a
Msisdn: 861111111
X-HW-Extension: k1=v1;k2=v2

<ns2:startbatchtransferrequestheader xmlns:ns2="http://www.ericsson.com/em/emm/sp/backend">
   <batchtitle>12.23</batchtitle>
   <fromaccountfri>abc</fromaccountfri>
   <numberofrecords>123</numberofrecords>
   <totalamount>
      <amount>abc</amount>
      <currency>abc</currency>
   </totalamount>
   <parsername>abc</parsername>
   <parserarguments>
      <argument>
         <name>abc</name>
         <value>abc</value>
      </argument>
   </parserarguments>
</ns2:startbatchtransferrequestheader>
```

## *Message Body Parameters*

Table 2-36 describes parameters in a startbatchtransfer message body.

Table 2-36 Parameters in a startbatchtransfer message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| startbatchtransferr equestheader | Startbatchtran sferrequesthe ader | - | Optional | See for more details. |

Table 2-37 describes parameters in a Startbatchtransferrequestheader message body.

Table 2-37 Parameters in a Startbatchtransferrequestheader message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| batchtitle | string | | Optional | The description of the batch, it is set by the person creating the file. The description will be present in the result file. Validated with Length parameter(max=128). Validated with IsRestrictedString. |

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| fromaccountfri | string | | Optional | The account where money is transferred from specified as an FRI. If not specified, the default account of the logged in user is used. Validated with IsFRI. |
| numberofrecords | long | | Mandatory | The number of transaction records in the batch. Parameter cannot be NULL. Maximum value: 10000L. |
| totalamount | decimal | | Mandatory | Total sum of amount for all transactions in transaction details file. Must be greater than 0 (zero). Parameter cannot be NULL. Validated with IsAmount. |
| currency | string | | Optional | Amount currency. Validated with IsCurrencyCode. |
| parsername | string | | Optional | Name of file parser that will be used to parse the batch data. System default parser will be used if this parameter is not set. Validated with IsSingleWordString. |
| parserarguments | list<propertytype> | - | Optional | Parser arguments. Contains the name and value of a property. For more details about propertytype, see Table 2-38. |

Table 2-38 describes parameters of propertytype.

Table 2-38 Parameters in propertytype

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| name | string | - | Mandatory | The name of the property. Validated with NotBlank. Validated with IsASCIISimpleString. |
| value | string | | Mandatory | The value of the property. Validated with NotBlank. Validated with IsPropertyValue. |

## Response

A success response example:

```
HTTP/1.1 200 OK
Signature:43AD232FD45FF
Content-Length: 0
Server: Jetty(7.5.4.v20111024)

<?xml version="1.0" encoding="UTF-8"?>
<startbatchtransferresponse>
    <batchtransferid>123</batchtransferid>
</startbatchtransferresponse>
```

Table 2-39 describes parameters in a startbatchtransfer response message body.

Table 2-39 Parameters in a startbatchtransfer response message body

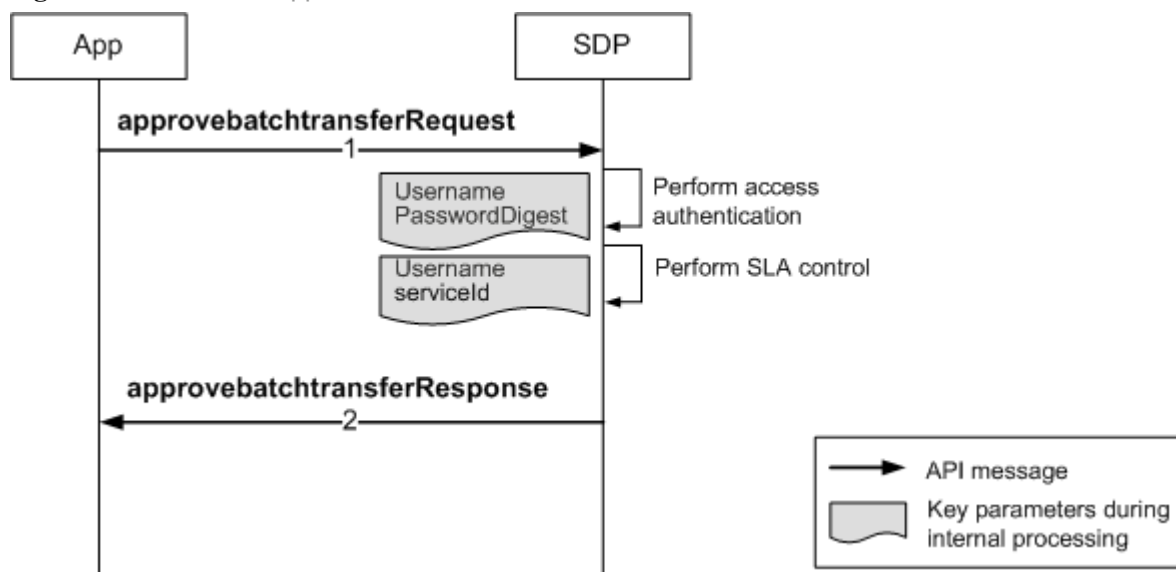| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| batchtransferi d | long | | Mandatory | Numerical identification of the performed batch transfer. |

*Error Codes*

SDP may return upon an exception. For details about the error codes, see 2.6 API Error Response.

### 2.5.2 approvebatchtransfer

*Process*

**Figure 2-15** Process of approvebatchtransfer

## Function

Approves a batch transfer previously created with the startbatchtransfer operation.

## Request URI

The request URI is the destination URI of preapproval messages sent by the App to the SDP. The URI is provided by the SDP in the following format:
**http://IP:Port/mom/mt/approvebatchtransfer**
In the format, IP and Port indicate the service IP address and SOAP port number of the API provided by the SDP. Contact carriers to obtain the IP address and port number.

## Request Message Body Example

```
POST /mom/mt/approvebatchtransfer HTTP/1.1
Content-Type:text/xml
Content-Length:1069
Host:127.0.0.1
Authorization: WSSE realm="SDP", profile="UsernameToken"
X-WSSE: UsernameToken Username="bob", PasswordDigest=" weYI3nXd8LjMNVksCKFV8t3rgHh3Rw==", Nonce="
WScqanjCEAC4mQoBE07sAQ==", Created="2012-07-26T11:31:26Z"
X-RequestHeader: request ServiceId="35000001000012", TransId=" 200903241230451000000123456789" ,
LinkId="A15Y89Z32T99", FA="8613912345678"
Signature:43AD232FD45FF
Cookie: sessionid=default8fcee064690b45faa9f8f6c7e21c5e5a
Msisdn: 861111111
X-HW-Extension: k1=v1;k2=v2

<ns2:approvebatchtransferrequest xmlns:ns2="http://www.ericsson.com/em/emm/sp/backend">
   <batchid>12.23</batchid>
</ns2:approvebatchtransferrequest>
```

## Message Body Parameters

Table 2-40 describes parameters in a approvalbatchtransfer message body.

Table 2-40 Parameters in a approvalbatchtransfer message body

| Parameter | Type | Length | Level of Requirement | Description |
|-----------|------|--------|----------------------|-------------|
| batchid | long | | Mandatory | The batch id generated by Mobile Money Manager when the batch was created. Parameter cannot be NULL. |

## Response

A success response example:

```
HTTP/1.1 200 OK
Signature:43AD232FD45FF
Content-Length: 0
```

Server: Jetty(7.5.4.v20111024)

```
<?xml version="1.0" encoding="UTF-8"?>
<approvebatchtransferresponse type="text"></approvebatchtransferresponse>
```

## *Error Codes*

SDP may return upon an exception. For details about the error codes, see 2.6 API Error Response.

### *2.5.3 cancelbatchtransfer*

## *Process*

**Figure 2-16** Process of cancelbatchtransfer
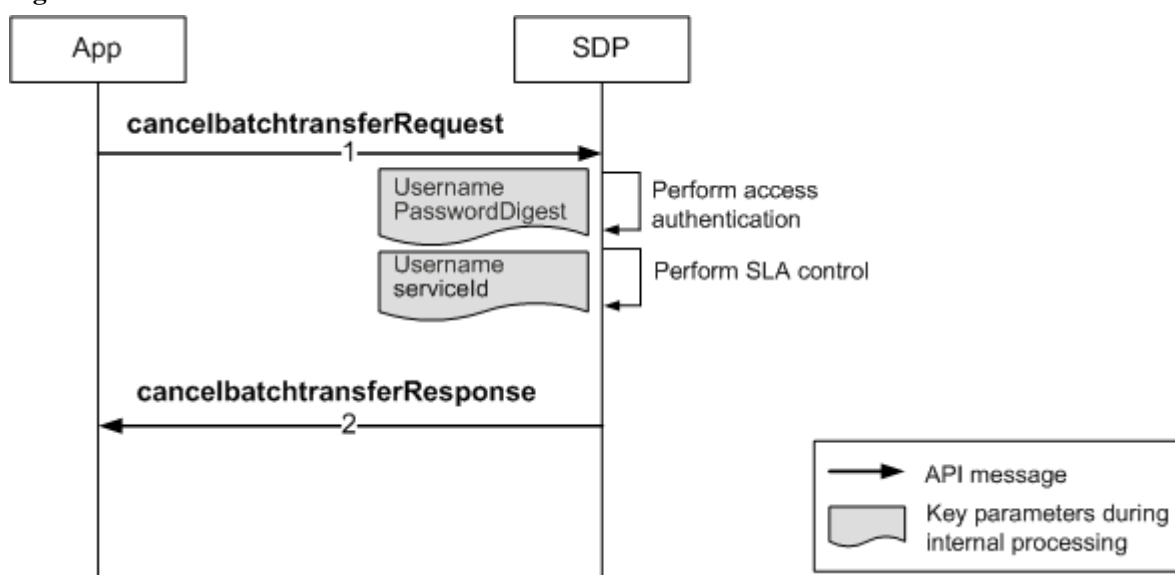


## *Function*

Cancel an unprocessed batch transfer.

## *Request URI*

The request URI is the destination URI of preapproval messages sent by the App to the SDP. The URI is provided by the SDP in the following format:
**http://IP:Port/mom/mt/cancelbatchtransfer**
In the format, IP and Port indicate the service IP address and SOAP port number of the API provided by the SDP. Contact carriers to obtain the IP address and port number.

## *Request Message Body Example*

```
POST /mom/mt/cancelbatchtransfer HTTP/1.1
Content-Type:text/xml
```

```
Content-Length:1069
Host:127.0.0.1
Authorization: WSSE realm="SDP", profile="UsernameToken"
X-WSSE: UsernameToken Username="bob", PasswordDigest=" weYI3nXd8LjMNVksCKFV8t3rgHh3Rw==", Nonce="
WScqanjCEAC4mQoBE07sAQ==", Created="2012-07-26T11:31:26Z"
X-RequestHeader: request ServiceId="35000001000012", TransId=" 20090324123045100000123456789" ,
LinkId="A15Y89Z32T99", FA="8613912345678"
Signature:43AD232FD45FF
Cookie: sessionid=default8fcee064690b45faa9f8f6c7e21c5e5a
Msisdn: 861111111
X-HW-Extension: k1=v1;k2=v2

<ns2:cancelbatchtransferrequest xmlns:ns2="http://www.ericsson.com/em/emm/sp/backend">
  <batchid>12.23</batchid>
</ns2:cancelbatchtransferrequest>
```

## *Message Body Parameters*

Table 2-41 describes parameters in message body.

Table 2-41 Parameters in message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| batchid | long | | Mandatory | The batch transfer identification number.<br><br>Parameter cannot be NULL. |

## *Response*

A success response example:

```
HTTP/1.1 200 OK
Signature:43AD232FD45FF
Content-Length: 0
Server: Jetty(7.5.4.v20111024)

<?xml version="1.0" encoding="UTF-8"?>
<cancelbatchtransferresponse type="text"></cancelbatchtransferresponse>
```

## *Error Codes*

SDP may return upon an exception. For details about the error codes, see 2.6 API Error Response.

### 2.5.4 listbatchtransfer

*Process*

**Figure 2-17** Process of listbatchtransfer
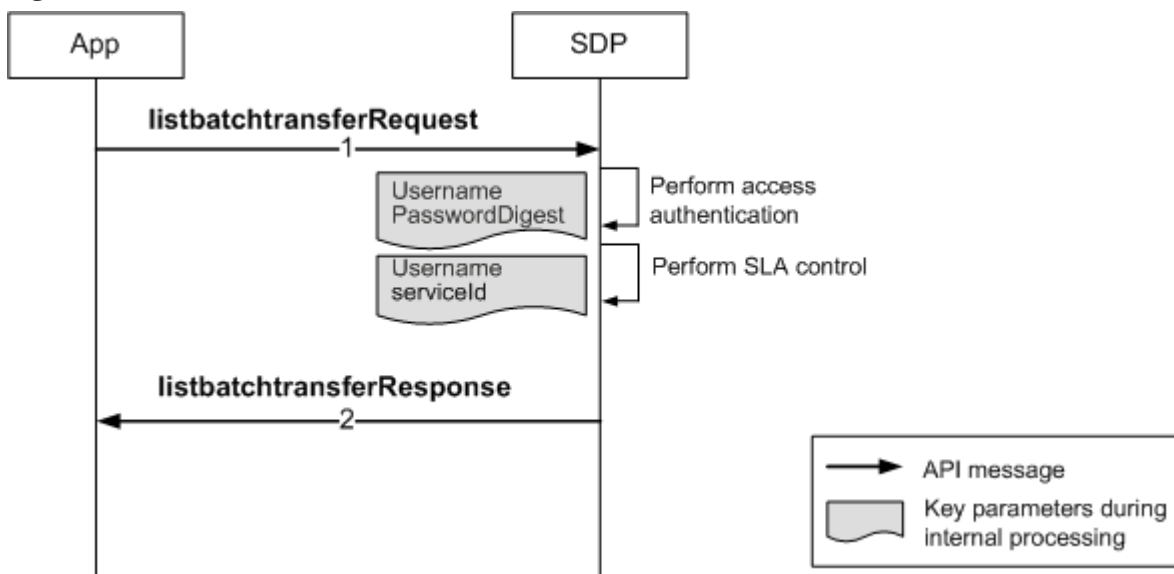


*Function*

Fetch batch transfers for a specific account, with possibility to also specify time interval and status.

*Request URI*

The request URI is the destination URI of preapproval messages sent by the App to the SDP. The URI is provided by the SDP in the following format:
**http://IP:Port/mom/mt/listbatchtransfer**
In the format, IP and Port indicate the service IP address and SOAP port number of the API provided by the SDP. Contact carriers to obtain the IP address and port number.

*Request Message Body Example*

```
POST /mom/mt/listbatchtransfer HTTP/1.1
Content-Type:text/xml
Content-Length:1069
Host:127.0.0.1
Authorization: WSSE realm="SDP", profile="UsernameToken"
X-WSSE: UsernameToken Username="bob", PasswordDigest=" weYI3nXd8LjMNVksCKFV8t3rgHh3Rw==", Nonce="
WScqanjCEAC4mQoBE07sAQ==", Created="2012-07-26T11:31:26Z"
X-RequestHeader: request ServiceId="35000001000012", TransId=" 20090324123045100000123456789" ,
LinkId="A15Y89Z32T99", FA="8613912345678"
Signature:43AD232FD45FF
```

```
Cookie: sessionid=default8fcee064690b45faa9f8f6c7e21c5e5a
Msisdn: 861111111
X-HW-Extension: k1=v1;k2=v2

<ns2:listbatchtransferrequest xmlns:ns2="http://www.ericsson.com/em/emm/sp/backend">
   <fromaccountfri>456</fromaccountfri>
   <numberofbatches>798</numberofbatches>
   <startdate>654</startdate>
   <enddate>abc</enddate>
   <statuslist>
      <status>CREATED</status>
   </statuslist>
   <extension>abc</extension>
</ns2:listbatchtransferrequest>
```

## *Message Body Parameters*

Table 2-42 describes parameters in a message body.

Table 2-42 Parameters in a message body

| Parameter | Type | Length | Level of Requirement | Description |
|-----------|------|--------|----------------------|-------------|
| fromaccountfri | string | | Optional | List batch transfers originating from this account. If not specified, the default account of the logged in user is used. Validated with IsFRI. |
| numberofbatches | integer | | Optional | The maximum number of batch transfers to be returned. |
| startdate | string | | Optional | If present, only batch transfers received from this date and onwards will be returned. Validated with IsDate parameter(format=yyyy-MM-dd). |
| enddate | string | | Optional | If present, only batch transfers received up to this date will be returned. Validated with IsDate parameter(format=yyyy-MM-dd). |

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| status | list<batchtransferstatus> | - | Optional | Batch transfer status list. Contains the different status codes for a batch transfer.<br><br>[Enumeration]<br>• CREATED<br>• APPROVED<br>• ONGOING<br>• COMPLETED<br>• CANCELLED |

*Response*

A success response example:

```
HTTP/1.1 200 OK
Signature:43AD232FD45FF
Content-Length: 0
Server: Jetty(7.5.4.v20111024)

<?xml version="1.0" encoding="UTF-8"?>
<listbatchtransferresponse>
    <batchinfos>
        <batchinfo>
            <batchid>12</batchid>
            <title>title</title>
            <receivetimestamp>20130726111233</receivetimestamp>
            <completedtimestamp>20130726111234</completedtimestamp>
            <fromaccountfri>1</fromaccountfri>
            <batchcreatormsisdn>1</batchcreatormsisdn>
            <batchcreatorname>1</batchcreatorname>
            <batchapprovermsisdn>1</batchapprovermsisdn>
            <batchapprovername>1</batchapprovername>
            <batchapprovable>1</batchapprovable>
            <batchcancelledbymsisdn>1</batchcancelledbymsisdn>
            <batchcancelledbyname>1</batchcancelledbyname>
            <numberofrecords>1</numberofrecords>
            <totalamount>1</totalamount>
            <currency>1</currency>
            <status>1</status>
            <numberofsuccess>1</numberofsuccess>
            <numberoffailure>1</numberoffailure>
            <totalfee>1</totalfee>
            <totaltransferedamount>1</totaltransferedamount>
            <transactionrecords>
```

```
<transactionrecord>
    <transactionidentifier>1</transactionidentifier>
    <receiveridtype>1</receiveridtype>
    <receiverid>1</receiverid>
    <transactionid>1</transactionid>
    <transactiondatetime>1</transactiondatetime>
    <amount>1</amount>
    <result>1</result>
    <reason>1</reason>
    <message>1</message>
    <fee>1</fee>
    <transferedamount>1</transferedamount>
</transactionrecord>
</transactionrecords>
</batchinfo>
</batchinfos>
</listbatchtransferresponse>
```

Table 2-43 describes parameters in a response message body.

Table 2-43 Parameters in a response message body

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| batchinfos | list<batchinfotype> | - | Optional | List of batch transfer information. Contains information about a batch transfer. For more details about batchinfotype, see Table 2-44. |

Table 2-44 describes parameters in batchinfotype.

Table 2-44 Parameters in batchinfotype

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| batchid | long | | Mandatory | Generated by the system when the batch is accepted. |
| title | string | | Optional | Import CSV file header title. Validated with IsMultiWordString. |
| fromaccountfri | string | | Mandatory | From account Financial Resource Identifier. Validated with IsFRI. |
| batchcreatormsisdn | string | | Mandatory | Creator msisdn. Validated with IsMSISDN. |
| batchcreatorname | string | | Optional | Creator name. Validated with IsUsername. |

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| batchapprovermsisdn | string | | Optional | Approver msisdn. Validated with IsMSISDN. |
| batchapprovername | string | | Optional | Approver name. Validated with IsUsername. |
| batchapprovable | boolean | | Optional | Batch is approvable or not, present if status is created. |
| batchcancelledbymsisdn | string | | Optional | CancelledBy msisdn. Validated with IsMSISDN. |
| batchcancelledbyname | string | | Optional | CancelledBy name. Validated with IsUsername. |
| receivetimestamp | string | | Mandatory | Time stamp when the system received the start batch request. Validated with IsDate parameter(format=yyyy-MM-dd HH:mm:ss). |
| numberofrecords | long | | Mandatory | Import CSV file number of records. |
| totalamount | decimal | | Mandatory | Import CSV file total amount. |
| currency | string | | Mandatory | Import CSV file currency. Validated with IsCurrencyCode. |
| status | string | | Mandatory | Import CSV file status. Validated with IsSingleWordString. |
| completedtimestamp | string | | Mandatory | Time stamp when the system completed the batch request. Validated with IsDate parameter(format=yyyy-MM-dd HH:mm:ss). |
| numberofsuccess | long | | Optional | The number of successfully executed transfers. Present if status is completed. |
| numberoffailure | long | | Optional | The number of failed transfers. Present if status is completed. |
| totalfee | decimal | | Optional | The totally withdrawn fee. Present if status is completed. |
| totaltransferedamount | decimal | | Optional | The totally transferred amount. Present if status is completed. |
| transactionrecords | list<transactionrecordtype> | | Optional | List of batch transaction details. Contains details about a batch transaction. For more details about transactionrecordtype, see Table 2-45. |

Table 2-45 describes parameters in transactionrecordtype.

Table 2-45 Parameters in transactionrecordtype

| Parameter | Type | Length | Level of Requirement | Description |
|---|---|---|---|---|
| transactionidentifier | string | | Mandatory | The identifier of the transaction record. Validated with IsExternalReferenceString. |
| receiveridtype | string | | Mandatory | The id type of the receiver, passport, identification card etc. Validated with IsRestrictedString. |
| receiverid | string | | Mandatory | The number of the receiver identification. Validated with IsRestrictedString. |
| transactionid | string | | Optional | Transaction id. Validated with IsNumericString. |
| transactiondatetime | string | | Optional | Time of transaction. Validated with IsDate parameter(format=yyyy-MM-ddHH:mm:ss). |
| amount | decimal | | Mandatory | Transaction amount. |
| result | string | | Mandatory | The result of the transaction. Validated with IsSingleWordString. |
| reason | string | | Optional | Free text. Validated with IsRestrictedString. |
| message | string | | Optional | Transaction message. Validated with IsRestrictedString. |
| fee | decimal | | Optional | Transaction fee. |
| transferedamount | decimal | | Optional | The amount being transferred. |

## *Error Codes*

SDP may return upon an exception. For details about the error codes, see 2.6 API Error Response.

## 2.5.5 getbatchtransfer

*Process*

**Figure 2-18** Process of getbatchtransfer
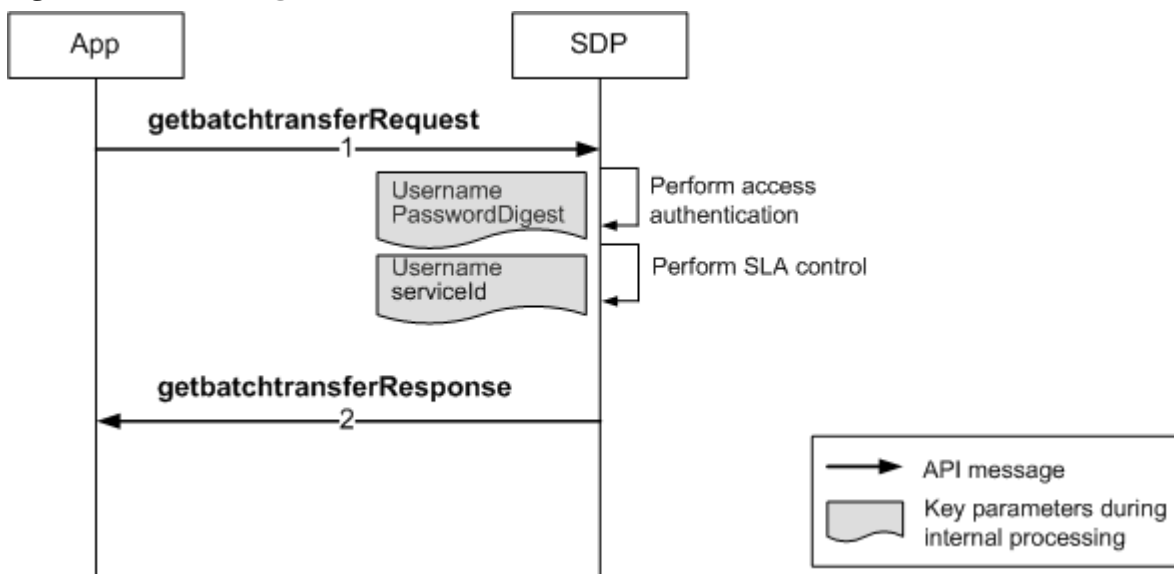


*Function*

Retrieves information about a specific batch.

*Request URI*

The request URI is the destination URI of preapproval messages sent by the App to the SDP. The URI is provided by the SDP in the following format:

**http://IP:Port/mom/mt/getbatchtransfer**

In the format, IP and Port indicate the service IP address and SOAP port number of the API provided by the SDP. Contact carriers to obtain the IP address and port number.

*Request Message Body Example*

```
POST /mom/mt/getbatchtransfer HTTP/1.1
Content-Type:text/xml
Content-Length:1069
Host:127.0.0.1
Authorization: WSSE realm="SDP", profile="UsernameToken"
X-WSSE: UsernameToken Username="bob", PasswordDigest=" weYI3nXd8LjMNVksCKFV8t3rgHh3Rw==", Nonce="
WScqanjCEAC4mQoBE07sAQ==", Created="2012-07-26T11:31:26Z"
X-RequestHeader: request ServiceId="35000001000012", TransId=" 20090324123045100000123456789" ,
LinkId="A15Y89Z32T99", FA="8613912345678"
Signature:43AD232FD45FF
```

```
Cookie: sessionid=default8fcee064690b45faa9f8f6c7e21c5e5a
Msisdn: 861111111
X-HW-Extension: k1=v1;k2=v2

<ns2:getbatchtransferrequest xmlns:ns2="http://www.ericsson.com/em/emm/sp/backend">
   <batchid>12.23</batchid>
   <resulttype>SUMMARY_REPORT</resulttype>
</ns2:getbatchtransferrequest>
```

## *Message Body Parameters*

Table 2-15 describes parameters in a message body.

Table 2-46 Parameters in a message body

| Parameter | Type | Length | Level of Requirement | Description |
|-----------|------|--------|----------------------|-------------|
| batchid | long | | Mandatory | The batch id generated by Mobile Money Manager when the batch was created.<br>Parameter cannot be NULL. |
| resulttype | batchtransferr esulttype | | Optional | Controls the level of information to return.<br>[Enumeration]<br>• SUMMARY_REPORT<br>• FULL_REPORT<br>• FULL_REPORT_ON_COMPLETED |

## *Response*

A success response example:

```
HTTP/1.1 200 OK
Signature:43AD232FD45FF
Content-Length: 0
Server: Jetty(7.5.4.v20111024)

<?xml version="1.0" encoding="UTF-8"?>
<getbatchtransferresponse>
    <batchinfo>
        <batchid>123</batchid>
        <title>11</title>
        <receivetimestamp>11</receivetimestamp>
        <completedtimestamp>11</completedtimestamp>
        <fromaccountfri>11</fromaccountfri>
        <batchcreatormsisdn>11</batchcreatormsisdn>
        <batchcreatorname>11</batchcreatorname>
```

```
            <batchapprovermsisdn>11</batchapprovermsisdn>
            <batchapprovername>11</batchapprovername>
            <batchapprovable>11</batchapprovable>
            <batchcancelledbymsisdn>11</batchcancelledbymsisdn>
            <batchcancelledbyname>11</batchcancelledbyname>
            <numberofrecords>11</numberofrecords>
            <totalamount>11</totalamount>
            <currency>11</currency>
            <status>11</status>
            <numberofsuccess>11</numberofsuccess>
            <numberoffailure>11</numberoffailure>
            <totalfee>11</totalfee>
            <totaltransferedamount>11</totaltransferedamount>
            <transactionrecords>
                <transactionrecord>
                    <transactionidentifier>11</transactionidentifier>
                    <receiveridtype>11</receiveridtype>
                    <receiverid>11</receiverid>
                    <transactionid>11</transactionid>
                    <transactiondatetime>11</transactiondatetime>
                    <amount>11</amount>
                    <result>11</result>
                    <reason>11</reason>
                    <message>11</message>
                    <fee>11</fee>
                    <transferedamount>11</transferedamount>
                </transactionrecord>
            </transactionrecords>
        </batchinfo>
    </getbatchtransferresponse>
```

Table 2-16 describes parameters in a response message body.

Table 2-47 Parameters in a response message body

| Parameter | Type | Length | Level of Requirement | Description |
|-----------|------|--------|----------------------|-------------|
| batchinfo | batchinfotype | - | Mandatory | Transfer Batch Info.<br>For more details about batchinfotype, see Table 2-44. |

## Error Codes

SDP may return upon an exception. For details about the error codes, see 2.6 API Error Response.

## 2.6 API Error Response

When an error occurs, the server sends a error response to the client. This topic provides an error response example and describes parameters in the response.

### Example

```
<tns:errorResponse xmlns:tns="http://www.ericsson.com/lwac" errorcode="errorcode0">
    <arguments name="name0" value="value0"/>
    <arguments name="name1" value="value1"/>
</tns:errorResponse>
```

### Error Code List

Table 2-48 defines the error code.

Table 2-48 Parameters in error response message body

| errorCode | arguments.name | arguments.value | Exception Scene |
|---|---|---|---|
| SYSTEM_OVERLOAD | resource_name | Name of the resource with dynamic flow control errors, such as CPU, memory, and queue. | Dynamic flow control error |
| SYSTEM_OVERLOAD | item_name | Name of the item with static flow control errors, such as SMS and MMS. | Static flow control error |
| EXCEED_LICENSE | item_name | Name of the item with license control errors, such as SMS and MMS. | License control error |
| SYSTEM_ERROR | connection | Error details, such as **internal connection broken** or **waiting response timeout**. | Internal message interaction error, such as disconnection or timeout |
| AUTHORIZATION_FAILED | SPID | SP ID, which is the value of **UserName** in the X-WSSE header. | Access authentication failure |
| NOT_AUTHORIZED | SPID ServiceID ApiName | SP ID, service ID, or API name. | Capability authentication failure |
| MANDATORY_FIELD_MIS | Parameter_na | Name of a parameter that fails to be | Parameter verification failure due to |

| errorCode | arguments.name | arguments.value | Exception Scene |
|---|---|---|---|
| SING | me | verified. | mandatory parameter missing |
| INVALID_PARAMETER | Parameter_name | Name of a parameter that fails to be verified. | Parameter verification failure due to incorrect format |
| VIOLATE_SLA | SPID ServiceID SLAID | SP ID, service ID, or SLA ID. | SLA control failure |
| NO_ROUTE | route | Route information not found. | Route query failure |
| CONNECTION_ERROR | connection | External connection error details, such as **connection broken** or **waiting response timeout**. | External message interaction error, such as disconnection or timeout |
| ACCOUNTHOLDER_NOT_ FOUND | - | - | Account holder could not be found. |
| ACCOUNTHOLDER_WITH _FRI_NOT_F OUND | - | - | Account holder with given FRI could not be found. |
| ACCOUNTHOLDER_WITH _MSISDN_N OT_FOUND | - | - | Account holder with given MSISDN could not be found. |
| AMOUNT_INVALID | - | - | Either amount and currency are incompatible or currency is invalid. |
| AUTHORIZATION_ACCOU NT_NOT_AL LOWED_TO_PERFORM_A CTION | - | - | Account holder is not allowed to perform this operation. |
| AUTHORIZATION_ACCOU NTHOLDER _NOT_ACTIVE | - | - | Account holder is not active. |
| AUTHORIZATION_FAILED | - | - | Authorization failed. |
| AUTHORIZATION_INVALID _ACCOUNT | - | - | Performing this operation with this account type combination |

**2 HTTP APIs**

| errorCode | arguments.name | arguments.value | Exception Scene |
|---|---|---|---|
| _TYPE_COMBINATION | | | is not allowed. |
| AUTHORIZATION_SENDER_ACCOUNT _NOT_ACTIVE | - | - | Senders account is not active. |
| COULD_NOT_PERFORM_ OPERATION | - | - | Could not perform the operation. Additional reason attached. |
| COULD_NOT_PERFORM_ TRANSACT ION | - | - | Transaction could be performed. |
| CURRENCY_NOT_SUPPO RTED | - | - | Given currency is not supported in the system. |
| DATEFORMAT_INVALID | - | - | Date string could not be parsed. |
| EXPIRED_OR_INVALID_T RANSACTIO N_ID | - | - | Transaction id is either invalid or this transaction has expired. |
| FIELD_TOO_LONG | - | - | Data in element is too long. |
| FRI_INVALID | - | - | FRI string is incorrectly formatted. |
| INCORRECT_PASSWORD | - | - | Incorrect password. |
| INVALID_CURRENCY | - | - | Currency is either not valid or used incorrectly. |
| INVALID_FIELD_VALUE | - | - | Element has invalid format. |
| MANDATORY_FIELD_MIS SING | - | - | Mandatory element is missing. |
| NOT_AUTHORIZED | - | - | The logged in user does not have sufficient permissions to perform this operation. |
| NOT_ENOUGH_FUNDS | - | - | Not enough funds to perform operation. |
| OTHER_FINANCIAL_ERR OR | - | - | Other financial error. |
| PREAPPROVAL_NOT_FO UND | - | - | The pre-approval with given id could not be found. |
| REFERENCE_ID_ALREAD | - | - | This client reference id is already used. |

**2 HTTP APIs**

| errorCode | arguments.name | arguments.value | Exception Scene |
|---|---|---|---|
| Y_IN_USE | | | |
| REFERENCE_ID_NOT_FOUND | - | - | A client reference with this id could not be found. |
| REQUIRED_FIELD_MISSING | - | - | Element needed for this invocation is missing. |
| RESOURCE_NOT_ACTIVE | - | - | Required resource is not active. |
| RESOURCE_NOT_FOUND | - | - | FRI not found. |
| SERVICE_TEMPORARILY_UNAVAILABLE | - | - | The operation could not be performed right now but might succeed later. |
| SESSION_INVALID | - | - | The session has timed out. |
| SOURCE_AND_TARGET_ARE_THE_SAME | - | - | Source is the same as the target. |
| SOURCE_NOT_FOUND | - | - | Source FRI not found. |
| TARGET_NOT_FOUND | - | - | Target FRI not found. |
| TRANSACTION_ID_OR_ORIGINAL_TRANSACTION_ID_MISSING | - | - | Neither transaction id nor original transaction id was given. |
| TRANSACTION_NOT_COMPLETED | - | - | Transaction has not been completed and its state is either Pending or Failed. |
| TRANSFER_TYPE_AND_ACCOUNT_DO_NOT_MATCH | - | - | Receiving account is invalid for this type of transaction. |

# 03

## Appendix

## 3.1 The Currency and Atomic Charging Unit of each OpCo country

| Country Name | Currency | Atomic Charging Unit |
|---|---|---|
| Afghanistan | AFN | pul |
| Benin | XOF | N/A |
| Bissau | CFA | N/A |
| Cameroon | XAF | XAF |
| Cote d'Iviore | XOF | XOF |
| Cyprus | EUR | cent |
| Ghana | GHS | Pesewa (1GHS = 100Pesewa) |
| Guinea | GNF(Guinea Franc) | N/A |
| Liberia | LRD(Liberia Dollar) | N/A |
| N Sudan | SDG | Piaster |
| Nigeria | NGN | Kobo |
| Rwanda | Rwandan Franc (RWF) | RWF |
| SA | ZAR | N/A |
| Swaziland | SZL | cent |
| Uganda | Ugandan shilling (Code UGX) | UGX |
| Yemen | Yemeni Riyal | Fils (1 Riyal = 100 Fils) |
| Zambia | ZMK | ngwee, 1ZMK = 100Ngwee |

## 3.2 ISO 4217 Codes for the representation of currencies and funds

| ENTITY | CURRENCY | ALPHABETI CCODE | NUMERI CCODE |
|---|---|---|---|
| Afghanistan | Afghani | AFA | 4 |
| Benin | CFA Franc BCEAO | XOF | 952 |
| Botswana | Pula | BWP | 72 |
| Cameroon | CFA Franc BEAC | XAF | 950 |
| Congo | CFA Franc BEAC | XAF | 950 |
| Cyprus | Cyprus Pound | CYP | 196 |
| Ethiopia | Ethiopian Birr | ETB | 230 |
| Ghana | Cedi | GHC | 288 |
| Guinea | Guinea Franc | GNF | 324 |
| Guinea-Bissau | Guinea-Bissau Peso | GWP | 624 |
|  | CFA Franc BCEAO | XOF | 952 |
| Liberia | Liberian Dollar | LRD | 430 |
| Nigeria | Naira | NGN | 566 |
| Rwanda | Rwanda Franc | RWF | 646 |
| South Africa | Rand | ZAR | 710 |
| Sudan | Sudanese Dinar | SDD | 736 |
| Swaziland | Lilangeni | SZL | 748 |
| Uganda | Uganda Shilling | UGX | 800 |
| Yemen | Yemeni Rial | YER | 886 |
| Zambia | Kwacha | ZMK | 894 |

## *3.3 OpCoID List*

| MTN OpCo Name | OpCoID Value |
|---|---|
| Afghanistan | 9301 |
| Benin | 22901 |
| Bissau | 24501 |
| Botswana | 26701 |
| Cameroon | 23701 |
| Congo | 24201 |
| CoteD'Ivoire | 22501 |
| Cyprus | 35701 |
| Ghana | 23301 |
| Guinea Republic | 22401 |
| Liberia | 23101 |
| Nigeria | 23401 |
| Rwanda | 25001 |
| South Africa | 2701 |
| Sudan North | 21101 |
| Sudan South | 24901 |
| Swaziland | 26801 |
| Syria | 96301 |
| Uganda | 25601 |
| Yemen | 96701 |
| Zambia | 26001 |